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Design and Feasibility Study Affordable Housing

UMass Amherst Center Economic Development

DESIGN AND FEASIBILITY STUDY
AFFORDABLE HOUSING

WARE, MASSACHUSETTS

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Contents

List of Figures

List of Maps

Executive Summary

The housing market boom of the 1980's raised homeownership prices beyond the reach of many low to moderate income families. Even with the subsequent recession, wage and salary increases have not caught up with the inflated housing prices. While housing prices have decreased, they have not decreased to the level attainable by low and moderate income families. The Ware Housing Partnership identified first time homebuyers as the segment of the housing market which has the greatest need for housing at this time. Susan Rutherford of the Ware Community Development Department identified three parcels in Ware which are available for purchase on the private market. Each of these sites has particular development constraints common to the remaining available land in Ware. This study examines the economic feasibility of private developers constructing affordable single family and/or duplex housing units on these sites.

This site developability study provides a methodology which serves as a model for future studies. The study examines the present character of the three neighborhoods, noting the existing land uses and the present density of residential development. The study then examines the physical characteristics of each site and determines the suitability of the land for residential development. The study provides buildout scenarios for each site, which show the possible development density under current land use regulations. Alternative buildout scenarios are based on zoning and subdivision regulations which could be amended to allow greater development density at each site. Each of the buildouts are assessed for their financial feasibility through proforma analysis and fiscal impact statements.

The Highland Street parcel is the most economically viable for affordable housing, primarily due to the availability of public ater and sewer service. This site has the fewest physical constriants. The most important factor in the development of this site is the neighborhood character, since the parcel is extremely visible, and the surrounding community is dense.

The economic viability of affordable housing development at the Old Belchertown Road site is constrained primarily by the prevelance of steep slopes around the perimeter of the parcel. A combination of cluster zoning, waiver of the 500 foot limit to culs-de-sac length, discounted mortgage interest rates, and limited profit development may make construction of affordable housing economically viable at this site.

The Cummings Road parcel is not optimal for affordable housing. Wetlands and hydrological conditions limit the development density and increase development costs. Increasing the development density to the point of making individual units affordable may be difficult to achieve without putting the sensitive environmental resources at risk of pollution.

SECTION I

What is Affordable Housing ?
How Can It Serve The Residents of Ware?

Purpose of this Study

A 1989 study prepared and analyzed by the Ware Housing Partnership indicated a need for single-family and duplex housing that is affordable for first time homebuyers in the Town of Ware. Additionally, *The Ware Growth Management and Development Plan*, prepared by LandUse, Incorporated in 1987, determined the need for a range of housing choices and opportunites for the residents of Ware. This comprehensive plan determined affordable housing as one of many necessary ingredients for the continued economic growth of Ware.

The overall purpose of this study is consistent with the Town of Ware Zoning Bylaw, which is designed in part to meet the needs and desires of the Town of Ware in terms of "encourag[ing] housing for all income levels."

> The purpose of this By-law is to promote the general welfare, health, safety and convenience of the inhabitants of Ware, to protect the community and its natural resources, to promote sound growth, to conserve the value of land and buildings, to preserve and increase the town's amenities, to encourage housing for all income levels, to encourage economic activity, to encourage the most appropriate use of land within the town, and to provide the Town of Ware the protection authorized by the General Law, Chapter 49C, as amended. (Town of Ware Zoning By-law, 1989).

In addition to encouraging housing for all income levels, our assessments take into consideration other town goals such as the protection of the "community and its natural resources", the conservation of the "value of land and buildings" and "the most appropriate use of land within the town".

The Ware Department of Community Development identified three sites for this study. The Town does not own any land suitable for housing construction. These sites were selected because they are representative of sites in Ware which are not yet developed and are currently available on the real estate market. The owners of the sites granted permission for these parcels to be included in this study. This study can serve as a model for future affordable housing site feasibility studies in Ware.

The sites are labeled according to the names of streets on which they have frontage, as follows:

- Highland Street (North Street)
- Cummings Road
- Old Belchertown Road

These sites are marked on the map of Ware in Map 1.

The 1987 *Ware Growth Management and Development Plan* determined that much of the undeveloped land in Ware is characterized by one or more of the following physical constraints:

- steep slopes (> 15%) which limit developability
- soils comprised of fine sandy loam on glacial till with large rocks and shallow depth to bedrock
- wetlands and other hydrologic factors

Each of the sites studied has a different factor limiting development. The Old Belchertown Road site serves as a model for slope and soil constraints. The Cummings Road site is a model for development on a site with wetland, aquifer and floodplain protection limits constraints. Highland Street is a model for development on a site which has access to public water and sewer facilities.

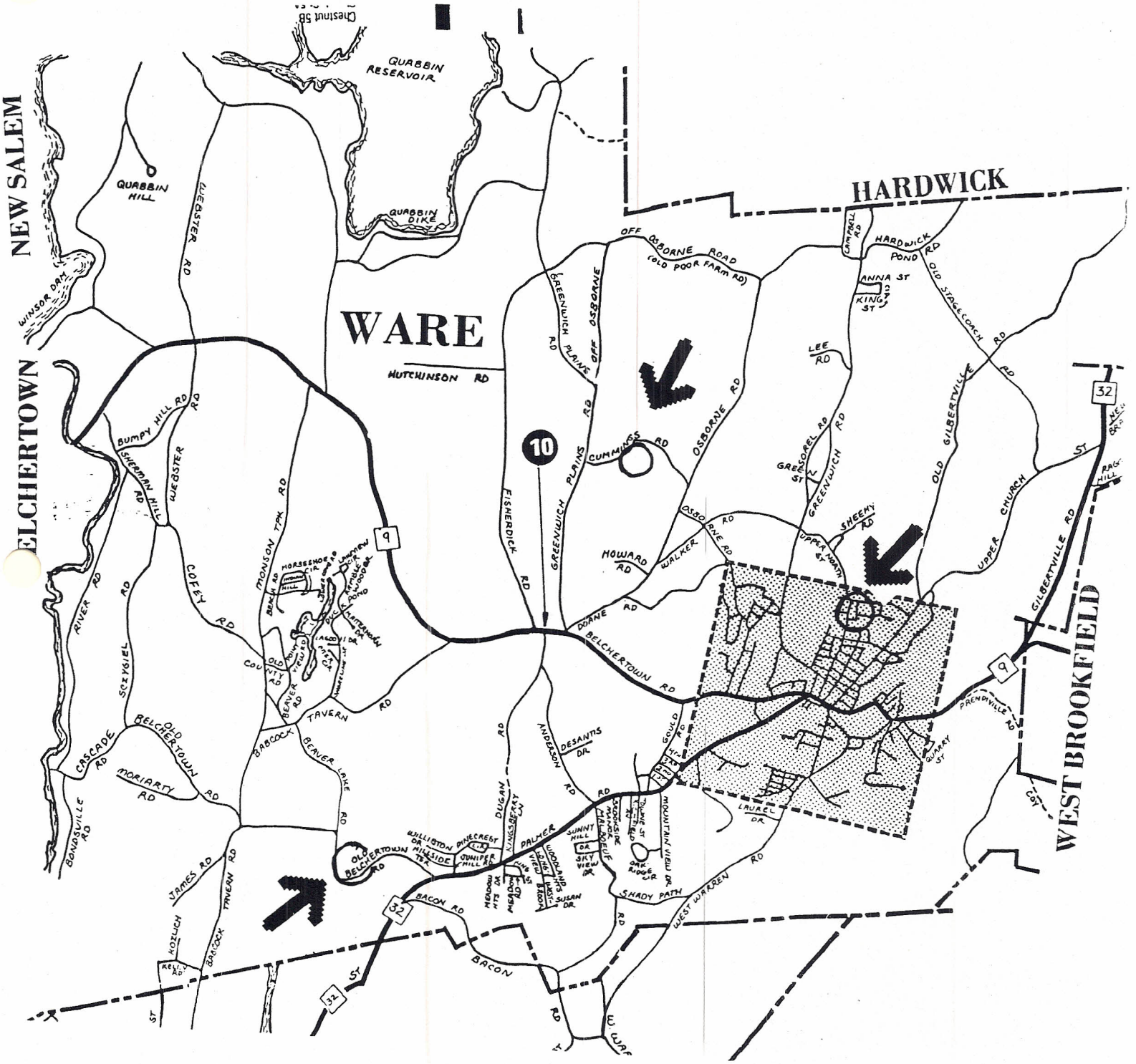
The *Ware Growth Management and Development Plan* further identified a need to maintain the rural character of Ware while encouraging a higher density of housing development in the downtown area (LandUse, Inc. 1987:99). This study gives substantial consideration to these objectives. The development scenarios for Cummings Road and Old Belchertown Road conform to the existing rural country character of these neighborhoods. The Highland Street neighborhood is a higher density residential area, and the development scenario reflects this characteristic.

In short, the developability of each site is determined by considering how affordable housing may be cost effectively sited on these parcels in a manner :

- which enhances the neighborhood, and
- respects environmental concerns and constraints;

The cost effectiveness is determined by cost per unit through proforma analysis.

Map 1: The Town of Ware, Massachusetts with the three sites highlighted.



Finally, The *Growth Management and Development Plan* identified a need to create a public/private coordination in the development of housing choice and ownership within the community. This is dealt with in the last half of the report along with other options for creating homeownership as a choice for young couples, single parent headed households, service sector employees, municipal employees, all of whom are critical to the productivity of the Ware community.

Addressing Community Concerns

Negative Perceptions

The term "affordable housing" frequently raises legitimate concerns within a community. This is due to negative perceptions with which this type of housing is associated. During a presentation held by the Community Development Office on Monday, April 27, 1992, some of these concerns were voiced. The following questions are examples of these concerns:

Are the residents who will be living in this housing from Ware?

First-time Homebuyers

Yes. This study is primarily concerned with the physical and financial aspects of developing three particular parcels of land in an affordable manner, however the feasibility standards are created for and assume a local market of young, first-time homebuyers. According to the market needs identified by the Ware Housing Partnership, we assume that many of these homebuyers will be individuals and young families who have grown up in Ware and would like to continue to live near friends and relatives.

Is this for low-income residents?

These houses will be constructed for first time low to moderate income homebuyers with household incomes between $14,700 and $29,500 a year.

Is this housing going to be a large complex type development?

No, the purpose of this study is to develop single family and duplex housing that fits into the surrounding neighborhood.

What is "affordable" in Ware?

"Affordable?"

Upon reading the title of this study at the public meeting mentioned above, a resident of Ware noted that all housing in Ware is affordable. To a large extent this is true. The median value of a house in Ware was $123,900 in 1990, whereas it was $162,800 for the state of Massachusetts. In addition, mortgage interest rates have dropped during the current recession, and this has created a buyer's market. Based on recent sales in Ware, the cost of an average 3 bedroom home is estimated at $110,000. This makes housing seem affordable.

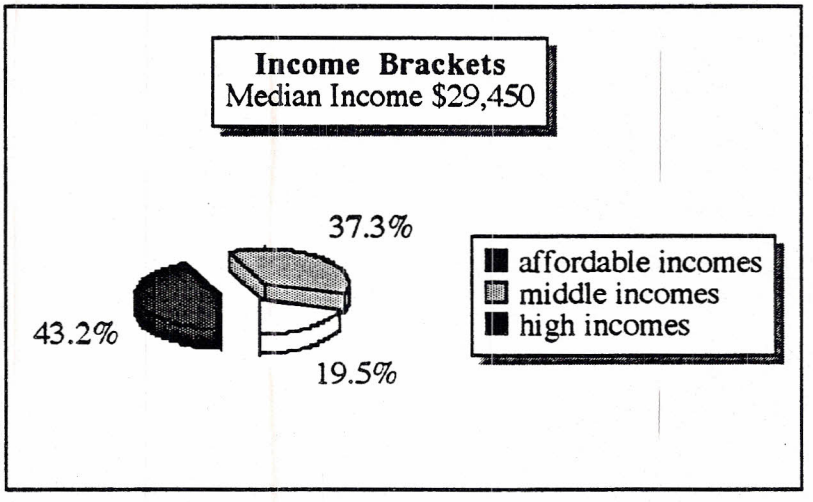
However, during the 1980's the cost of housing rose much faster than did incomes. The *Ware Growth Management and Development Plan* found

that house and land prices jumped thirty percent in 1985 alone (LandUse, Inc. 1987:39). This left many people unable to afford homes. Housing cost inflation has subsided for the moment, but many households' incomes still have not caught up with current home prices. These are productive people who are an asset to the community and should therefore be able to buy homes in Ware which are *within their means* . That is, the buyer pays a maximum of thirty percent of their income for housing.

Median Income in Ware

For the purpose of this study, affordable housing is determined by the median income of households in Ware. According to a survey conducted by Massachusetts Institute For Social and Economic Research (MISER), based on the 1990 U. S. Census, the median houshold income in Ware is $29,425. Given this number, we have determined low-income to be $23, 540 or 80% of the median household income; and very-low income for a household to be $14,700 or 50% of the median household income. Therefore, any income below the median household income is considered eligible for "affordable" housing. See Figure 1 below.

Figure 1: The percentage of the population is eligible for affordable housing?

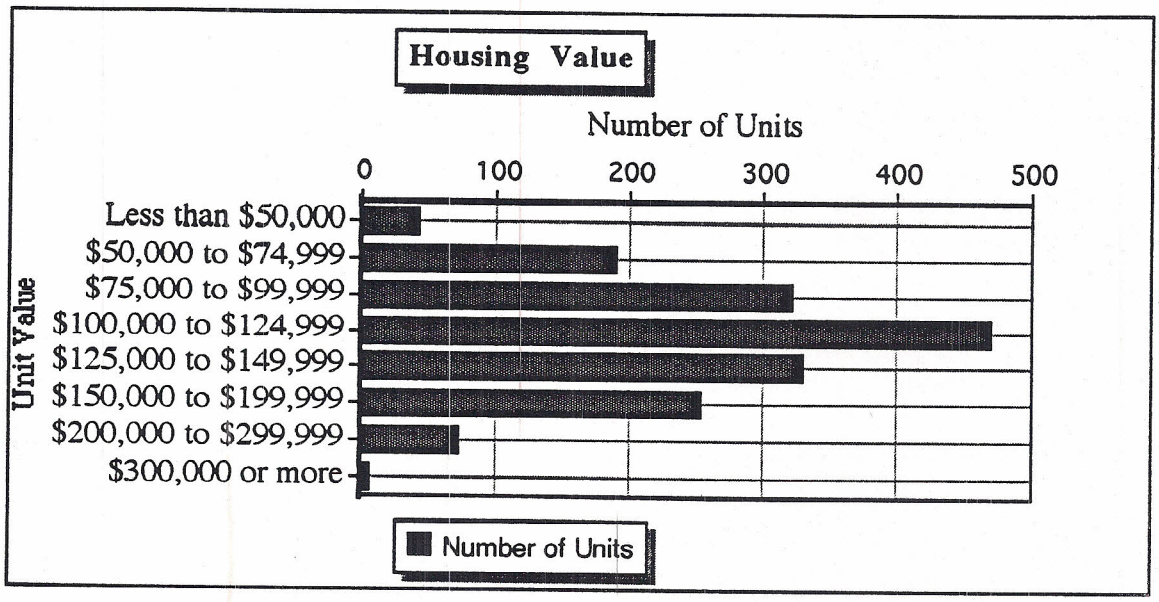


Source: 1990 U.S. Census
The pie chart shows that 43.2% of the population of Ware is eligible for affordable housing.

Given these incomes, affordable single family or duplex homes should cost between $58,850 and $73,562. According to the 1990 Census, the average cost of housing in Ware was $123,942. The price distribution of housing is shown in Figure 2. Most housing in Ware ranges from between $100,000

and $124,999, which is not affordable for 43.2% of the populaton of Ware.

Figure 2: Ware Housing Value (1990 U.S. Census).

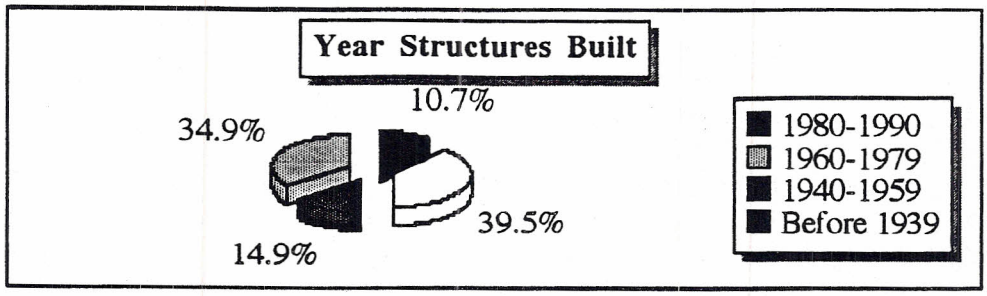


Market Value in Ware

It is important to note that since the recession that began in 1990, the market value and the assessed value of housing have been significantly reduced. A quick scan of sales figures shows that three bedroom single family homes comparable to what we are proposing, have been selling for between $95,000 and $115,000. Older homes that need repair can be bought for significantly less (between $60,000 and $100,000). These are difficult prices to attain for new construction in New England, since land and construction costs remain relatively high and current zoning frequently inhibits the most cost-effective use of land. In many cases older homes are more affordable than new homes when considering sale price alone. This is critical to this study, since the housing stock in Ware is largely older. According to the 1980 U. S. Census, 39.5% of the housing stock was built before 1939. This is likely to mean that although there are affordable homes on the market, there is a limited supply of homes that are in top condition with efficient heating and ventilation, and that have no asbestos or lead paint abatement problems. This creates significant costs for households since the cost of utilities for heating and electricity has continued to rise unlike the rest of the economy.

The majority of existing housing in Ware is owner occupied. Figure 3 shows the distribution of housing units between Owner Occupied, Renter Occupied, and Vacant.

Figure 3: Available Housing Stock in Ware



Source: 1990 U.S. Census

A shortage of potential owner occupied homes in the affordable price range forces those potential owners into the rental housing market. This rental units become more expensive and in shorter supply. With this in mind:

- NOW is the time to add to the supply of affordable, energy efficient homes since construction costs and financing are low.

- New housing can be built more affordably through different methods such as higher density, reduced site improvements, limited profits, simplified design and creative financing, that still maintain the character and the goals of Ware.

Will the conclusions to this study be presented to the land owners?

Yes. This study will also be presented to the Ware Housing Partnership who will then determine the next step to meeting the housing goals of Ware. Additionally, this study will be made available to other housing partnerships interested in limited or non-profit housing development and to the land owners and developers who may choose to produce housing for profit.

Cautions

Assumptions

This is a preliminary analysis whose intent is to help local citizens consider how affordable homes might be made available to first time home buyers. In order to produce conclusions it was necessary for the team to make some assumptions during our process. Some of the information was interpolated from other data and applied to Ware. The maps are scaled versions of various maps and may not be 100 percent accurate. A detailed site assessment by a registered professional would be required before any development begins. The numbers used in the pro-forma analysis can vary greatly depending on the state of the economy and the rate of inflation. These figures should be viewed as illustrative estimates of the costs involved in development.

SECTION II

Three Model Sites: Tools for Development

Methodology

Analytical Process

Our first task was to evaluate the sites through field visits and map analysis. This physical assessment included an analysis of site location, soil, vegetation, slope, existing infrastructure, the surrounding built and natural environment, access to the site, and community character. This was followed by a zoning assessment, build-out analysis according to present zoning by-laws, and a pro-forma analysis. A buildout analysis shows the housing density at a site if the land is developed to its maximum capacity. A pro-forma analysis estimates the costs of constructing the residential development at the maximum feasible buildout level. This is followed by a fiscal impact assessment which shows the affect of development on taxes for the average homeowner.

With the three sample sites in mind, the study team then examined general affordable housing options for rural areas and researched how other communities have changed by-laws to meet affordable housing needs.

The study team then developed design alternatives that reduce the cost of developing housing yet maintain community character and are sensitive to the environment. The study concludes with recommendations for development, by-law changes and financing options along with a list of incentives for developers, the local government and the community.

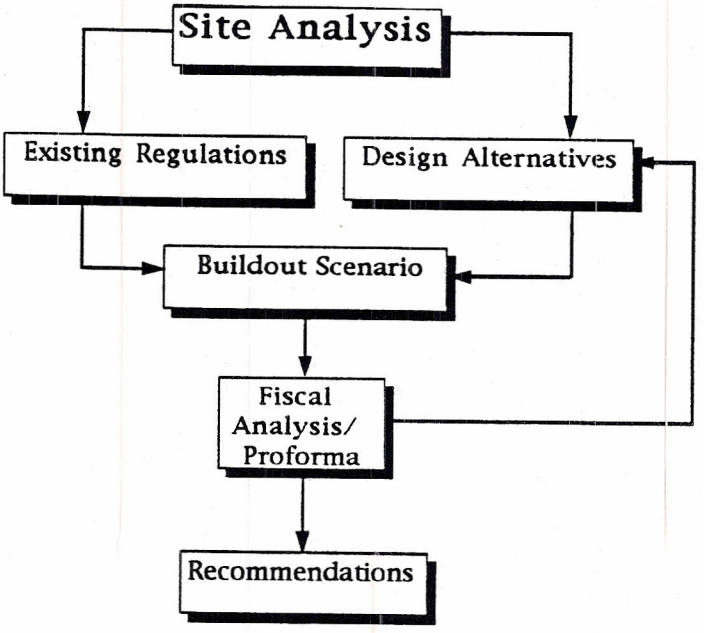
Site Analysis

Land Assessment

Site analysis is not only important in terms of constructing sound affordable housing, but also because of the effects of any form of land use on the character of the neighborhood along with the environmental impact on the community. The models developed for the three sites take into consideration:

- needs of the community
- needs of the future residents of the developments
- impact on the neighborhood
- impact on environmental resources, and
- financial feasibility

Figure 4: Flow chart showing the process of analysis.



The land for each parcel is privately owned and therefore the development will involve the expense of land. It is important to make sure that development costs are reasonable while achieving quality design and construction and compatibility with the surrounding environment. Therefore each site is evaluated according to:

- physical factors including hydrology and wetlands, topography, vegetation, solar orientation, noise and visual impacts, and community character
- adequacy or availability of public facilities
- proximity to municipal and commercial services, and
- existing zoning

These factors are recorded on a data base worksheet which the town can use to assess future sites. See Appendix A of this report.

Physical factors and proximity to municipal and commercial services are perhaps the most critical physical aspects of the site analysis, since other aspects can change: public facilities can be expanded, and zoning can be amended. At the same time, finances are a very critical aspect of building affordable housing, because neither the public nor the private sector can take on a project where numbers do not project adequate revenues to cover costs.

hydrology and wetlands, or neighborhood character. These are typical constraints on the available land in Ware, so these case studies provide an analytical model for assessing similar sites.

Buildout Scenario

Maximum Development Buildout

A buildout scenario is a development vision that maximizes the number of lots or units that can be accommodated within the existing regulations. A buildout scenario is used to determine how the site would look if maximum development occurred. It also outlines a cost and revenue scenario to which any alternative development scenario can be compared. A buildout scenario has been drawn for each site along with a pro-forma analysis that describes the costs of the development.

Each buildout is based on standardized criteria to facilitate comparisons among the different buildouts. These criteria are:

- construction cost reduction through simplified design
- moderate unit sizes
  - single family: 1200 s.f.
  - duplex: 2000 s.f.
- limited site improvements

The worksheets are located in Appendix B. These should be compared to the alternative buildout scenario and pro-forma analysis to determine which best meets the needs of Ware.

Pro-forma Analysis

Financial Feasibility

The pro-forma analysis is a spreadsheet created to assess the financial feasibility and affordability of a project . The pro-forma calculates approximate costs with approximate revenues on a per unit basis. Pro-forma analyses were prepared using development densities allowed by right under current local land use regulations and using alternative development scenarios at densities higher than those allowed by right. The pro-forma analyses will show which of the two developments is more affordable, or whether they are affordable at all. The worksheets are located in Appendix B. All unit costs are based on these worksheets.

Financial Worksheets: What Salary You Need To Afford These Homes?

Affordablity

The financial worksheets determine the salary needed to afford the various units. These are based on 30 year mortgages at 8.75% interest. We have assumed that the potential buyers of these units can put 10% down and pay mortgages that are 30% of their income. These worksheets include legal fees, administrative costs, taxes, etc. All stated salaries are based on these worksheets and can be found in Appendix C.

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Fiscal Impact Statements

Fiscal Impact

Fiscal impact statements are spreadsheets which calculate the impact of new development on personal taxes due to the additional cost for public services such as schools, water, sewer, fire department, police department, library, and other administration costs.

The fiscal impact worksheet begins with the revenue from property taxes. This information was collected from the Assessor's Office and the 1990 U.S. Census. We then calculated the school costs and non school costs (such as Police, Fire Department, infrastructure) due to development. The 0.32 estimated number of students per unit is based on the current number of school children in public schools divided by the number of households in Ware. It is possible that this is a low estimate. The state figure is 0.8 school children per unit. With numbers provided by the Assessor's Office, and the U. S. Census we were able to subtract total revenue by total costs and come up with the change in tax rate resulting from development. We then translated this number into impact of the development on the average homeowner.

SECTION III

Highland Street: Fitting Into the Neighborhood

Site Analysis (See Figure 5)

The site is located in the Downtown Residential zoning district. It is approximately 0.6 miles from Route 9 and the center of Ware. It is bordered by North Street, which is a heavily travelled arterial street connecting the center of town to North Ware. The parcel is composed of 10 previously subdivided lots. The parcel is covered on the southern half and northeastern corner with vegetation consisting of Eastern White Pine, Northern Red Oak, Red Pine and Sugar Maple (see Map 2: SCS, 1989:121). The site has a uniform slope of approximately 5-7 percent. For these reasons the site is easily buildable. The site is located on an aquifer recharge area. This parcel is serviced by town water and sewer and therefore, does not present any inherent threat to the aquifer. Density is not a constraint, as this neighborhood is in a high density zoning district.

Soil Characteristics

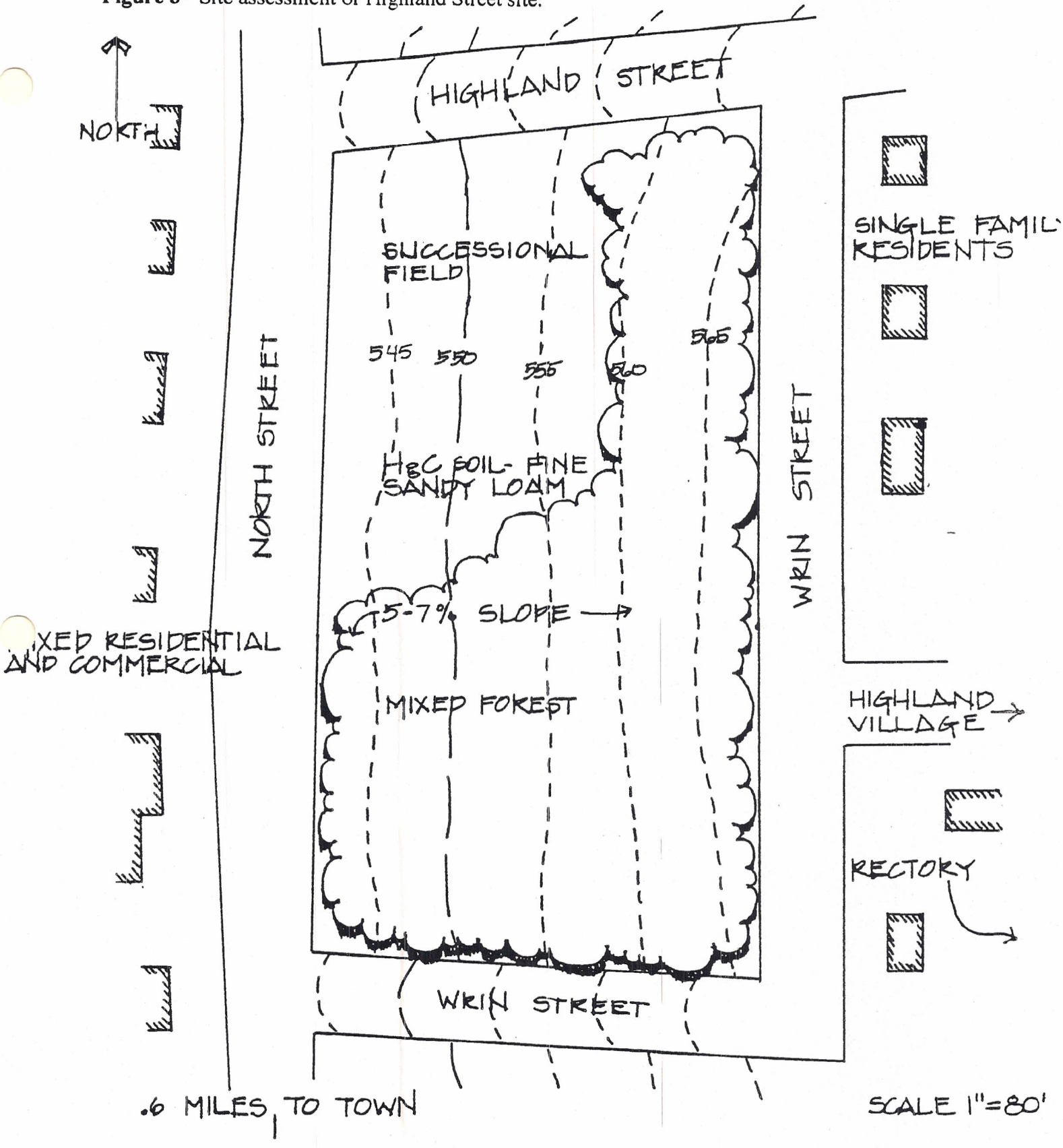
The soil, which is classified as Hinkley (HgC), is deep sandy loam and excessively drained, with rapid permeability. The main limitations for construction on this type of soil are the slope and septic tank absorption fields, neither of which are a problem on this site since the average slope is not excessive and the site is served by town water and sewer. One concern on this site is a storm culvert that enters the site from a housing development to the east. A development site drainage system would have to integrate this existing culvert.

Community Character

Therefore, from a physical standpoint, there are few limitations to building housing on the site. However, from a social and environmental standpoint, the community character and the existing physical character of the neighborhood are quite important. Since this area is higher in density than the other two parcels at which we are looking, the need for compatibility with the neighboring homes is especially important.

The downtown commercial district is walking distance from the site. The site also borders the residential development Highland Village Apartments. The surrounding neighborhood consists of single family homes built between 1890 and 1950 (according to a windshield survey). This area also consists of a nearby church, which owns this parcel, and a grand-fathered flower shop (current zoning strictly limits commercial land use in this area). The neighborhood has a number of families with children. The neighborhood

Figure 3- Site assessment of Highland Street site.



is quiet and has pleasant views. Given this atmosphere, the study team concentrated on how to introduce affordable housing that fits into the quiet family setting of the neighborhood

Figure 4: Neighboring Highland Village, a multi-family unit development.

Build-out Scenario Under Current Land Use Regulations

The site has already been through the subdivision process. There exist ten lots with 120 foot frontage with a minimum of 12,000 square feet. The site is located in the zoning district DTR (Downtown Residential) and the lots meet the dimensional and density requirements of this district (see Appendix A).

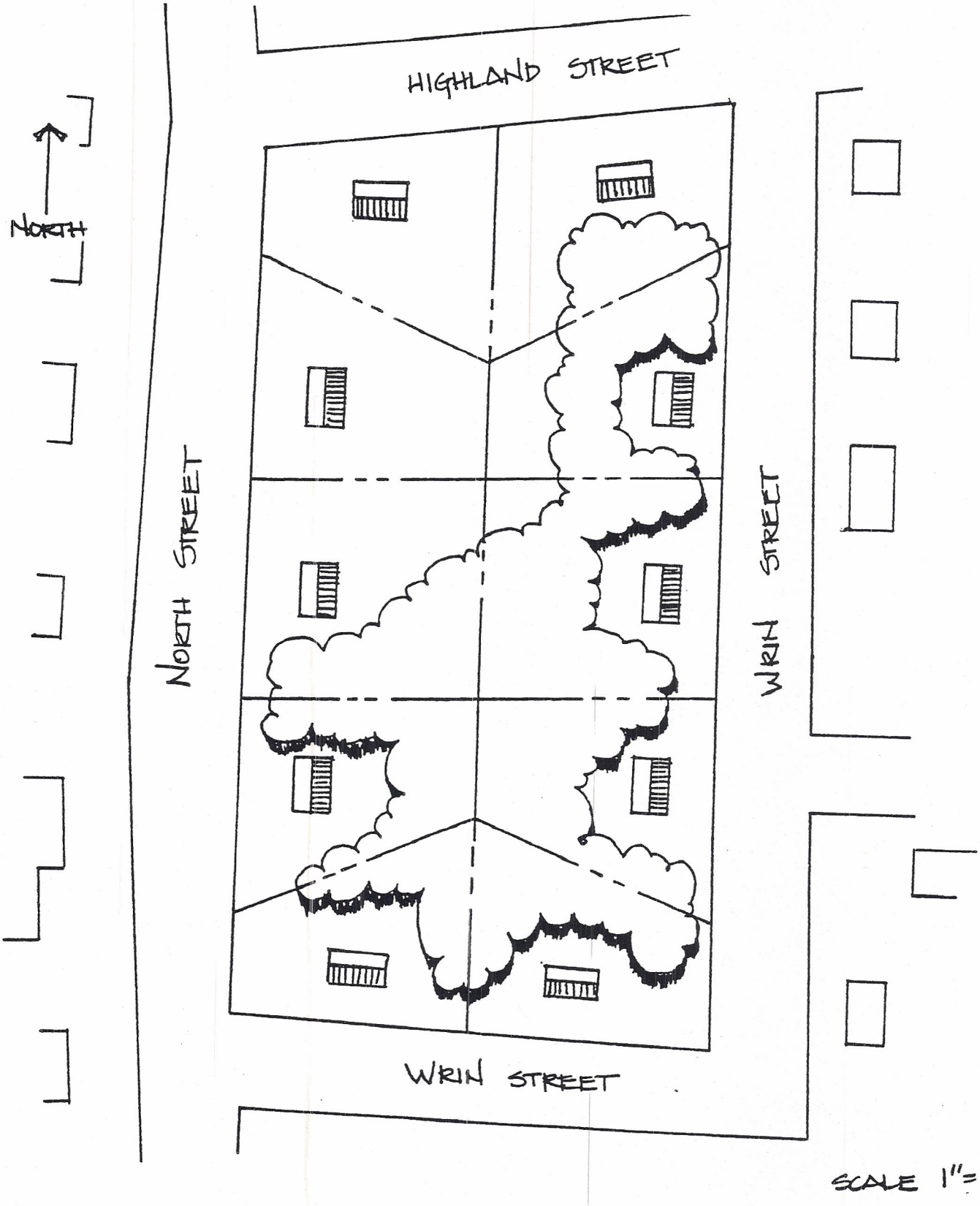
Single Family Development

The single family buildout simply places units within the setback requirements (see Map 3). The minimum setback for front and side yards are twenty five feet, and the minimum rear yard is thirty feet. This creates a density of 3.6 units per acre.

Duplex Development

The duplex buildout requires a special permit for development. The existing subdivision would have to be changed to accommodate the 40,000 square foot lot size requirement for duplexes. The site is divided into three lots with setbacks similar to those of the single family except for the front yard which requires thirty feet. This creates three structures and six units with a density of 2.17 units per acre.

Map 3: Highland Street single family buildout scenario under existing regulations



There are no physical conditions which restrict development on the site. The buildout is based on the zoning by-laws, the subdivision regulations and the community character. Does this scenario meet the affordability needs of Ware?

Pro-Forma Analysis

The pro-forma analysis for this site is for a single family development. The following spreadsheet (see Figure 6) shows the breakdown of the costs of development under the existing regulations. The Highland Street site has low development costs because the site is only 2.77 acres. It is not necessary to clear the entire site, saving money on the site preparation costs and landscaping. The slope of the site is within the buildable percentage, therefore the site work costs are at a minimum. It is not necessary to construct off site water and sewer infrastructure. The units can be constructed at a rate of $45.00 per square foot. This is an estimate based on average construction costs at the present time. A typical unit of 1,200 square feet will cost approximately $113,241 to construct.

The total site costs are added to the cost of the land, construction costs and then subtotaled. The fees and costs of administering the project are added as a percent of the subtotal. The total cost is divided by the number of units to determine the cost per unit.

Highland Street Prices

Figure 6: A comparative chart showing the various prices for the different buildout scenarios.

Buildout Matrix -Per Unit Cost and Income Needed for Purchase

Highland Street	Units	Cost	Income Needed
Existing Regulations (Single Family)	10	$113,241	$36,628
Subdivision Road Waiver	N/A	N/A	N/A
Higher Density (Duplex)	12	$94,354	$31,106
6% Profit/No Land Cost	12	$61,904	$20,103

Alternative Development of Highland Street Site

The above buildout according to existing zoning is appropriate for a household earning $36,628. However it can be made more financially feasible to moderate and low-income persons by creating duplex housing on the site. In order to effectively site duplexes, the zoning regulations need to be modified, so that lot sizes are a minimum of 20,000 square feet for duplexes rather than 40,000 square feet under existing zoning. The increased density from ten single family units or six duplex units (three duplexes) to twelve duplex units (six duplexes) brings down the price of each unit while increasing the amount of open space and preserved natural features of the land (see Map 4).

Open Space Development

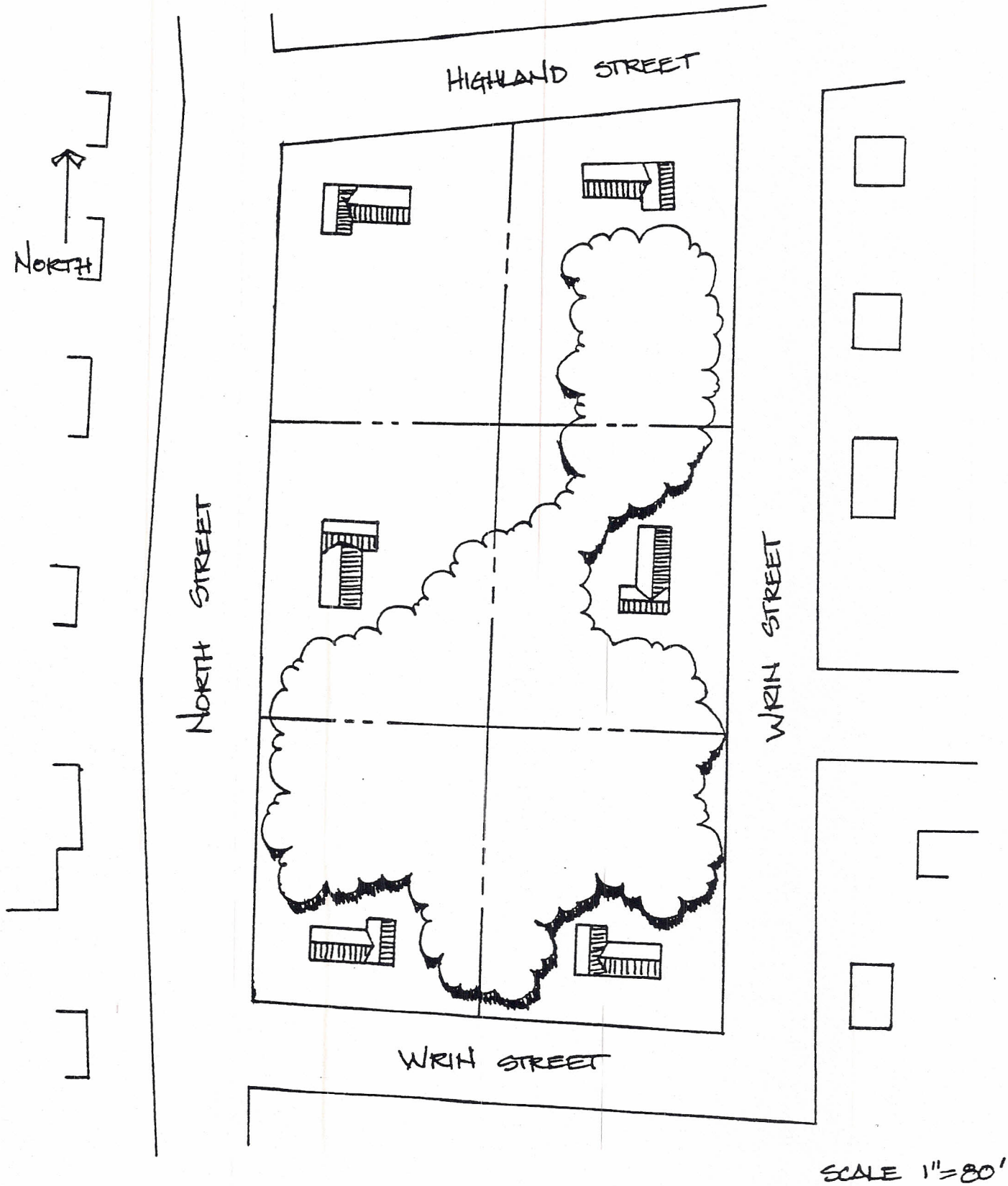
To consolidate a maximum amount of open space within the block, each duplex is brought up to the minimum front yard setbacks. This also ensures that the setbacks of these units fit in with the rest of the neighborhood by retaining the same front and side yards.

Since these homes will be more visible than the attached townhouses nearby at Highland Village, the duplexes are designed with a varied height and foot print so as to fit with the variety of forms in the neighborhood and also to meet the varied needs of different households. Each duplex has one unit that is 2.5 stories and one unit that is 1.5 stories, with foot prints that are between 400 and 800 square feet depending on the number of bedrooms. This meets differing household needs, while reducing construction costs because all units are based on the same modules, with bathroom and kitchen cores. The use of shared driveways will further reduce costs for each duplex. This reduces the costs and traffic impact by allowing for fewer curb cuts.

The site layout used for the buildout scenario is both economical and preserves seventy-five percent of the site as open space. Since one-third of an acre that is designated as open space is a wooded area, site preparation costs would be reduced because less land would have to be cleared and prepared for construction. The other one-third of an acre that is available as open space is already an open area and could be used for recreation.

The maintenance of this open space raises a question. The ownership of the land can be dealt with in numerous ways. First of all, both duplex units may be owned by one of the occupants who then rents the other unit to a tenant for an affordable price according to a written covenant. Another means of tenancy would be to have two owners who share the land through an association. This would include an additional fee to the association for the preparation of legal documents (to make this binding) and for maintenance of the land. Yet another solution would be to have the ownership of the open space land under the Town. The individual units would maintain private front, side and back yards, however most of the land would go to the Town for

Map 4: Alternative buildout scenario for Highland Street.



public open space and recreation area for the neighborhood.

Financing

The financing of the construction is another way that the housing can be more affordable. Since this land is owned by the Roman Catholic Diocese of Springfield, there may be a possibility of working out a financing program with the Church. In this case, the developer could purchase and build on one lot at a time. After selling the first lot, the developer could then purchase the second lot, develop another duplex, sell it, and continue this pattern until all six parcels with twelve units are sold. This could increase the overall cost of construction if one lot is built at a time unless the developer produces and approves the development of the entire site through a Comprehensive Permit (see Section VII) in order to streamline the process and reduce permit and administration fees. However, the costs could still be substantially reduced if the whole site is built at one time as if on an assembly line, since materials can be bought and/or trucked-in in bulk. This also reduces the amount of time that the development requires which further lowers the cost. It will be less expensive to develop the whole site at one time instead of on a parcel by parcel basis.

Proforma Analysis

This model site is the easiest of the three to develop in an affordable manner since it is presently owned by a non-profit organization, the physical site limitations are minimal, public sewer and water service is available at the site, and this parcel is closest to the center of town. With this in mind and if the above methods are utilized (see alternative proforma for exact methods used), the cost per unit is reduced by $28,887. The costs could further be reduced through limited or non profit development. This would reduce the profit margin from 12% to 6%, and eliminate land costs. Such methods are discussed in Chapter IX. Under these conditions the cost would then be $61,904, making it possible for someone with an income of $20,103 to buy a home.

Fiscal Impact of New Development

The fiscal impact of this development is negligable. See Appedix D. The development of twelve market rate or twelve affordable units would cost the average tax payer an additional $1.10 per year, changing the average annnual tax payment from $1,181.40 to $1,182.50.

SECTION IV

Cummings Road: Residential Development with Hydrologic Constraints

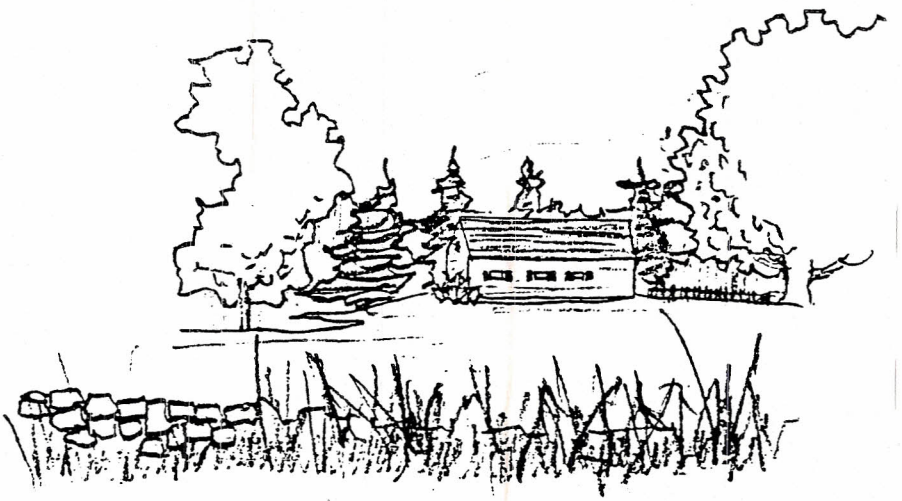
Site Analysis

The parcel is approximately 1000 feet from the intersection of Cummings Road and East Greenwich Road. Route 9 is approximately one-half mile away from the site. The eastern section of Cummings Road is unpaved. This is a rural area with low density residential development. The parcel is an irregular horseshoe shape with an existing residence dividing the property's frontage on Cummings Road (see Map 5).

Community Character

The scale of the housing should be appropriate to the scale of the land and the existing homes. When entering Cummings Road from East Greenwich Road, the first house is a new log cabin. The north side of Cummings Road across from the site is an open field. Other existing homes are modest tract homes and mobile homes on large lots (see Figure 7). The only aesthetic constraint to this site is the scale of homes since most of the buildable land will not be seen from Cummings Road and the existing housing is spread out and new (probably built since the 1970's).

Figure 7: Single family home across the street from the Cummings Road site.



Slopes and Soils

This site has an eastern facing slope with an average of 7% . Vegetation covers approximately 80% of the site. The vegetation consists of Eastern White Pines, Northern Red Oaks and Red Pines. The soil on the western portion of the site, Hinkley (HgC) is deep and excessively drained with rapid permeability. The eastern half is Canton (CcC) which has a fine sandy loam and is extremely stony (SCS, 1989: 112; see Map 5). "This soil is very moderately rapid to rapid (ibid.:14)." Percolation tests conducted at the western part of the site showed extremely rapid rates from 2-6 minutes per inch. Furthermore, the depth of soil above bedrock is an extremely shallow 5-8 feet. Since this site has no town sewer service, the soil characteristics of this site could limit the density of building coverage. The poor filtering capacity of the soil may be hazardous to the ground water. This constraint is particularly important since the parcel is partially located in an aquifer recharge district , is divided by a stream which includes a 100-year flood plain and has some wetlands on site (1986 LandUse Inc.) (see Map 6).

Buildout Scenarios Under Existing Regulations

Layout under existing Conditions

The buildout scenario for this site is for single family development. The site is zoned Rural Residential 2 (North Ware district). The residential structures were located using the zoning requirements. The minimum frontage for single family homes is 150 feet, with 60,000 square foot minimum lot sizes. The minimum front and side yards are thirty feet and the minimum rear yard is forty feet. The physical constraints dictated the layout.

Under existing subdivision regulations, the maximium length of a cul-de-sac road is 500 feet. This would limit the development to six units at a cost of $182,740 (see Map 7)(see appedix B).

Subdivision Regulations

The Ware Subdivision Regulations limit the length of dead end cul-de-sacs to 500 feet. An affordable housing developer would have to request and receive a waiver of this subdivision requirement to make an economically viable development, since, the site requires an approximately 1850 foot cul-de-sac. We could reasonably advocate that an 800-1000 foot cul-de-sac would not cause a serious public safety hazard. However, an 1850 foot cul-de-sac could more likely present a public safety problem. Thus, an economically viable buildout would probably also require that 1000 feet of the subdivision road be constructed with two one-way lanes separated by a vegetated swale in the middle. This would alleviate the problem of emergency vehicle access.

Even with a subdivison road waiver, the location of the two streams and the wetlands causes difficulty in constructing the road. The 100 foot wetland buffer creates narrow spaces for access to the southeastern portion of the site. The inability for the road to sufficiently access the entire site limits

the amount of frontage. Without proper frontage the land closest to the protected areas cannot be developed.

The resulting layout under existing zoning conditions with a subdivision road waiver, yields twelve lots (see Map 8). The cost of each unit is $165,357. This high cost is due to exorbitant infrastructure costs. The proforma analysis (see Appenidx B) shows that the site cannot accommodate a sufficient number of units to be developed at an affordable cost. The wetland and hydrological restrictions of site development require reduction in the number of units. This restricts the profit and precludes use of this site for meeting the housing needs of Ware.

Cluster Development

Alternative Buildout Scenario for Cummings Road

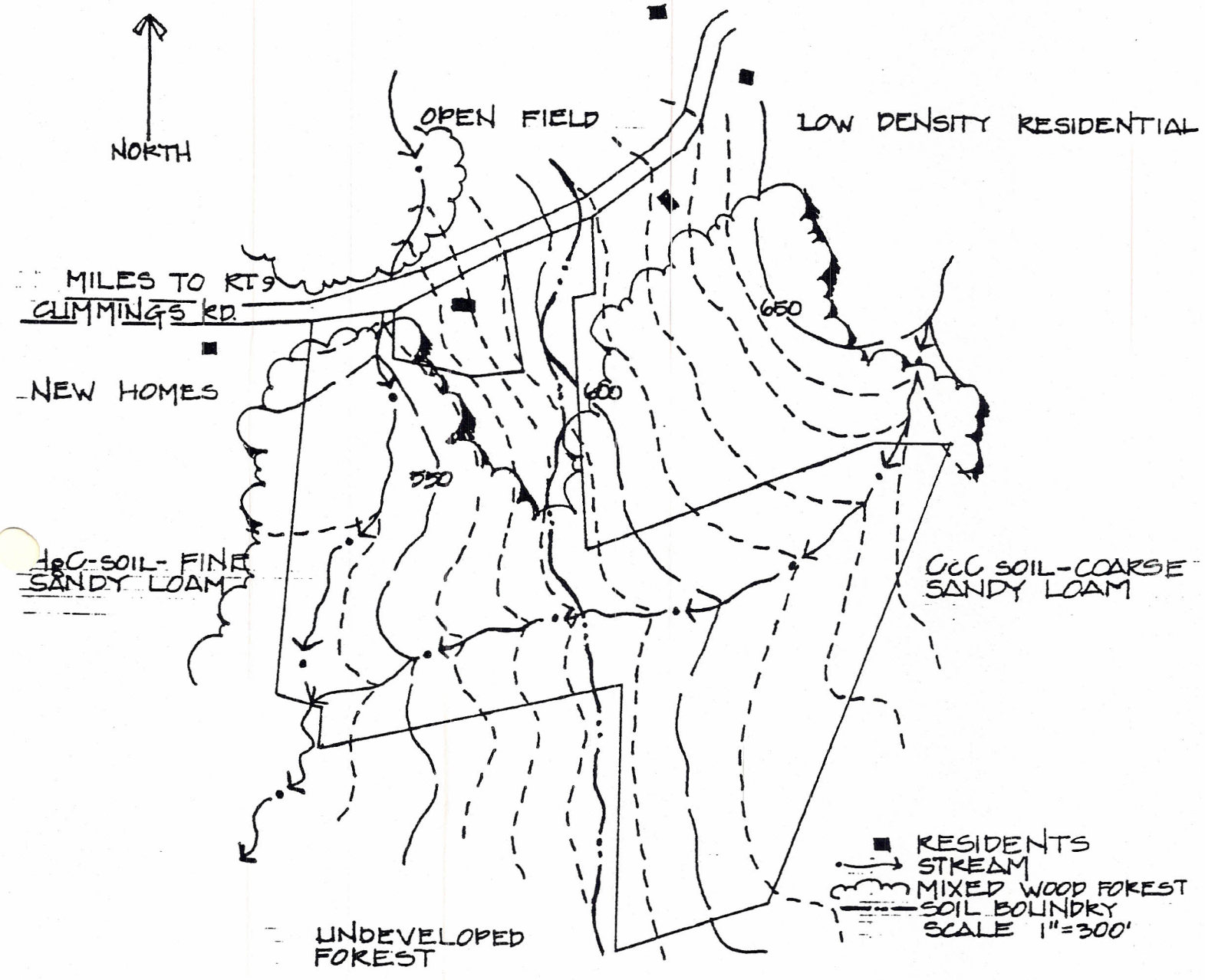
A cluster development layout would provide higher development density without substantially compromising the character of the surrounding neighborhood. Although the surrounding area is exclusively single family development, a cluster cevelopment could retain significant open space buffers separating the new affordable residences from the other homes in the neighborhood. This also maintains the rural character of the neighborhood. M.G.L. C. 40A enables towns to "provide that cluster developments or planned unit developments be permitted upon the issuance of a special permit." The Town of Ware could adopt a cluster by-law which specifies town needs to make housing more affordable. Cluster development would also serve Town needs for conservation land and open space. An model cluster zoning bylaw, tailored for affordable housing, is included as Appendix.

This site ptrovides a model of how the Town can use cluster zoning to preserve open space more effectively (see Map 9). Under existing conditions only 12 single family units can be built due to the hydrological constraints of the land. However, a cluster development could accomodate 23 single family units. In this scenario, there are three clusters of seven to eight single family units. The single family units could be prefabricated modular homes, or simply homes with simplified design and thus reduced construction costs. This fits into the existing fabric of the neighborhood, which has modular homes, mobile homes, a new log cabin and other modestly sized homes.

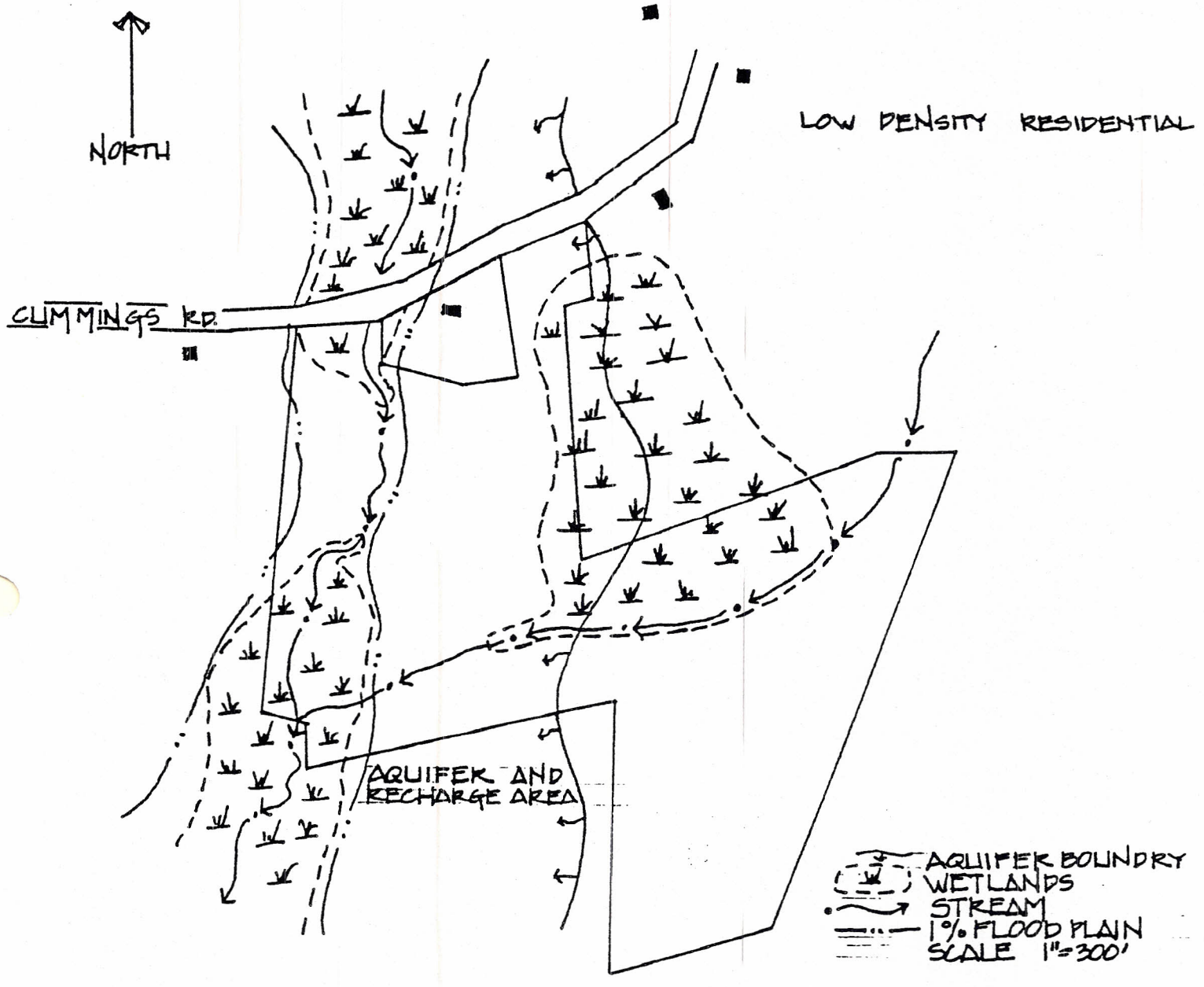
The units are clustered around a New England style common, which provides access to each unit and a common open space. The units are sited around the common in a staggered manner which maximizes solar orientation for as many units as is possible. In order to minimize curb cuts, every two clustered units shares a common driveway.

Each house sits on a privately owned lot. Lot size which is reduced to to include only the amount of space required for individual septic systems,

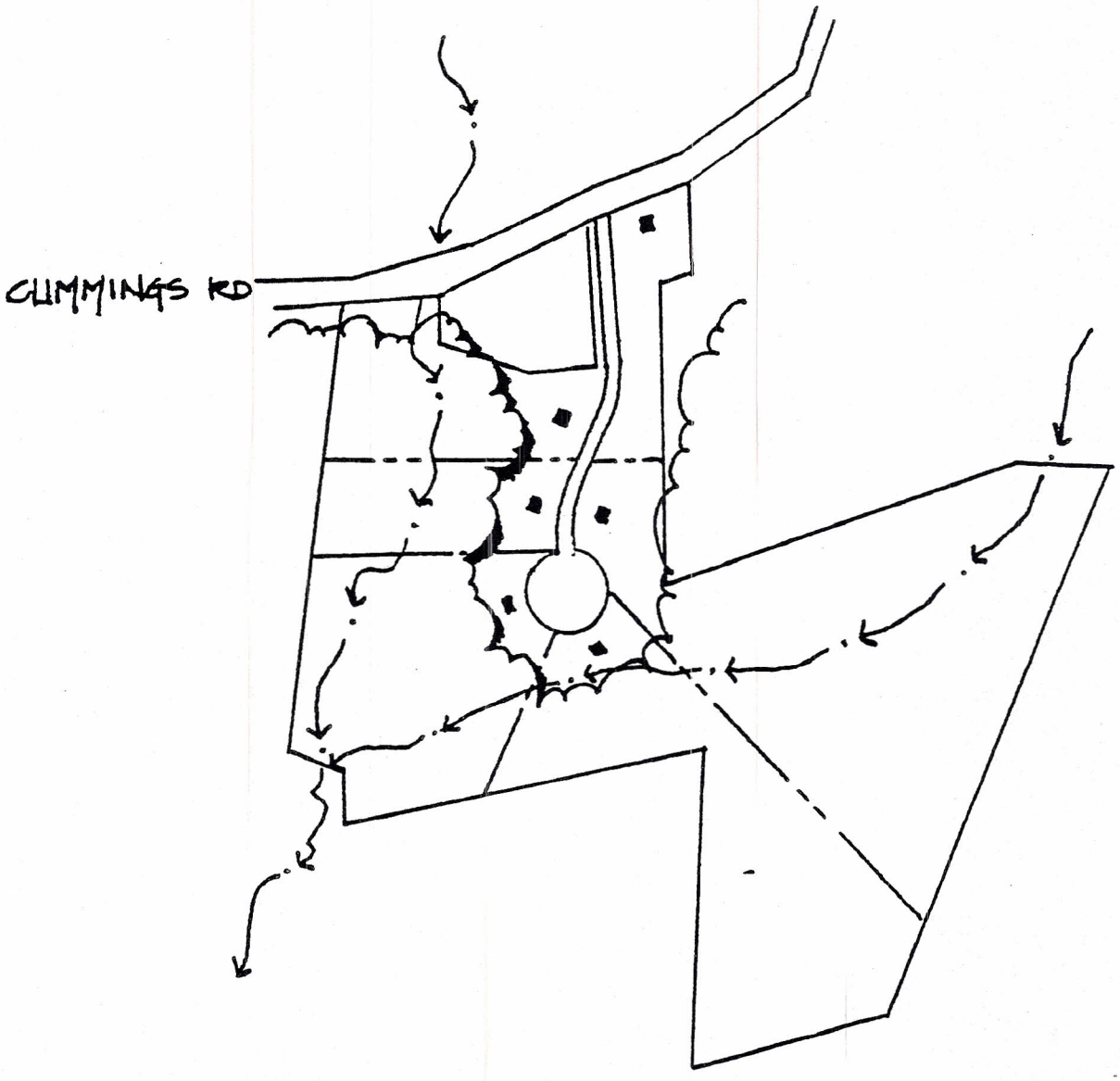
Map 5: Cummings Road topography and vegetation.



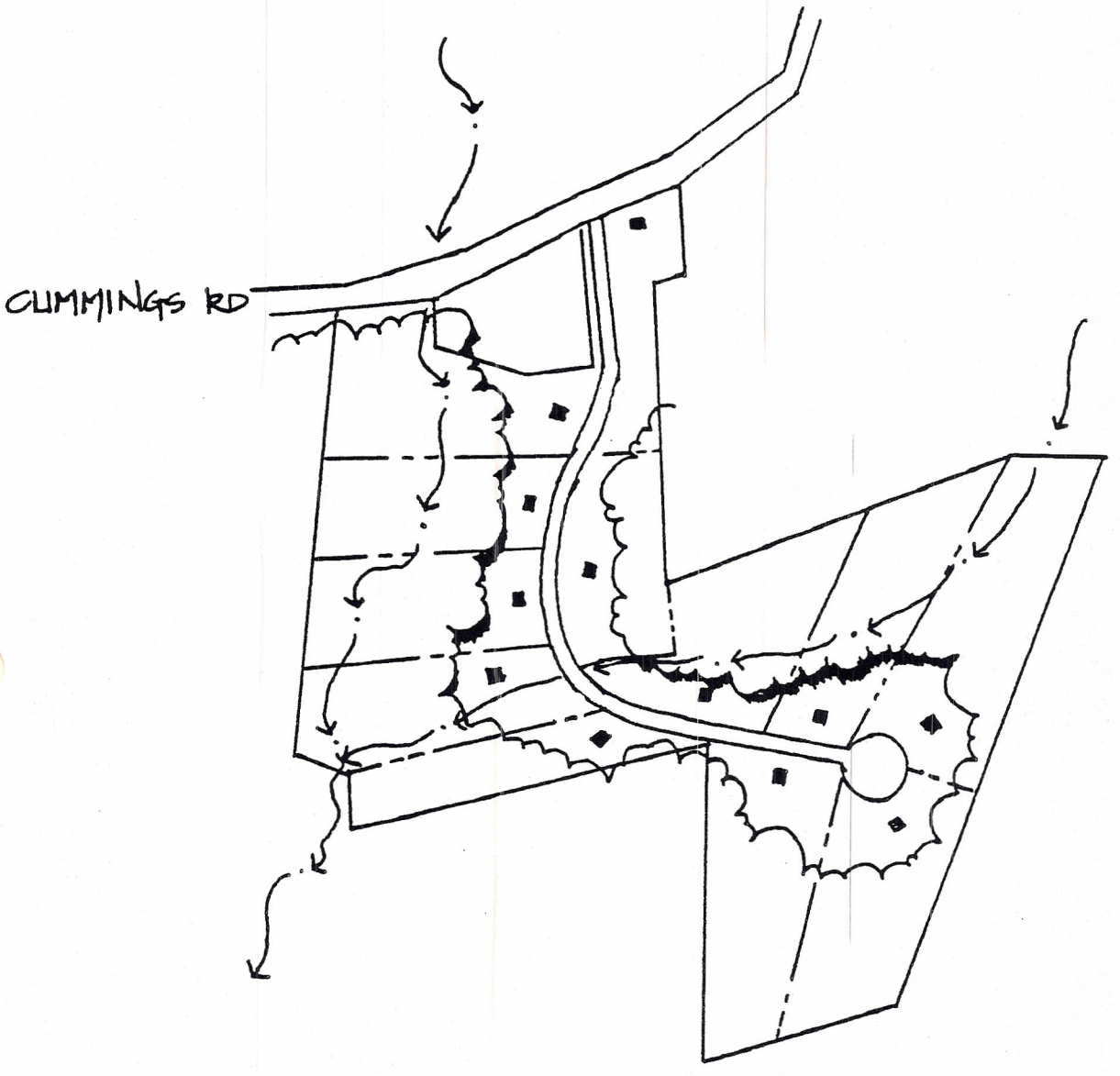
Map 6: Cummings Road wetlands, aquifer, flood plain and hydrology.



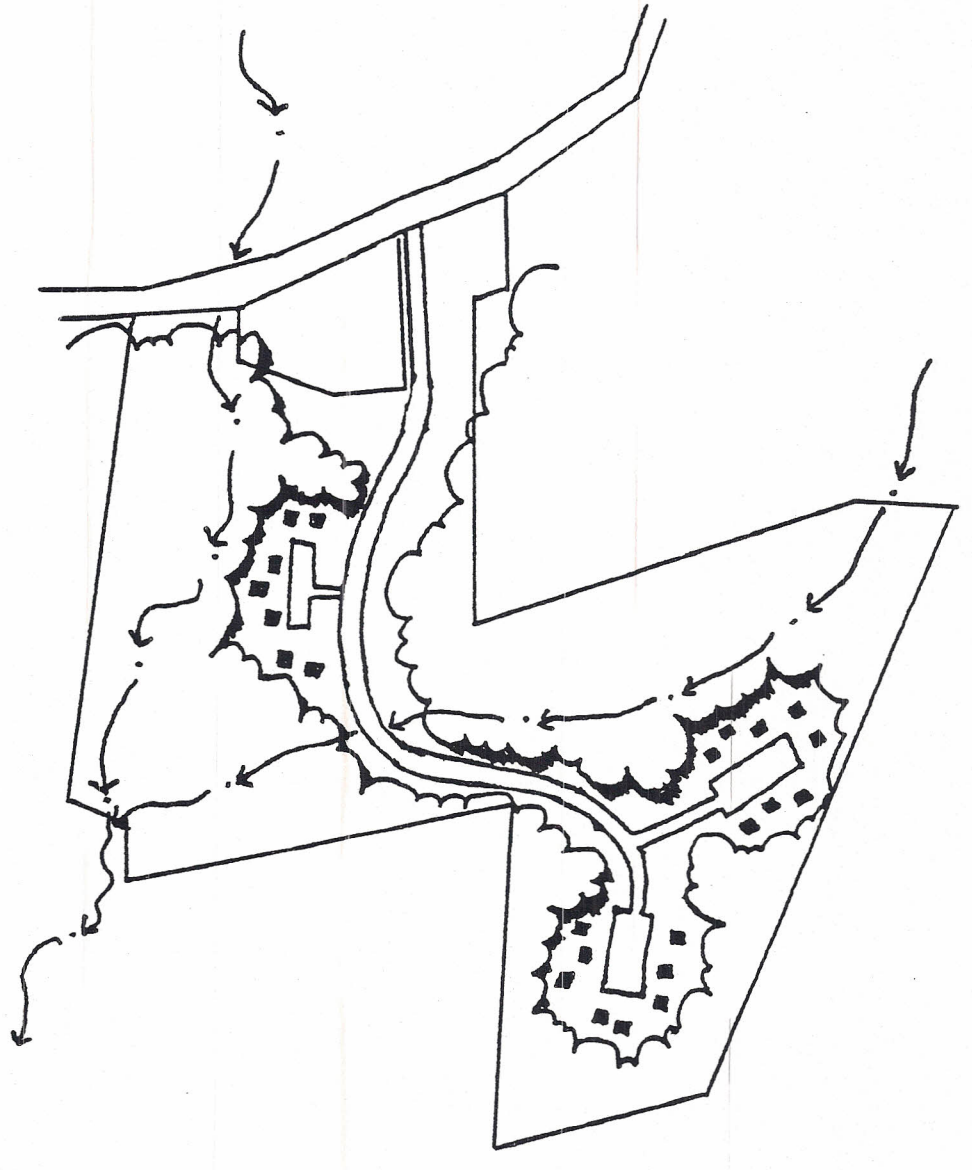
Map 7: Buildout scenario with a 500 foot culs-de-sac road length limit.



Map 8: Buildout scenario under existing regulations with a road length waiver.



Map 9: Alternative buildout scenario using cluster development.



leaching fields, and wells 100 feet away from septic leaching fields. The private wells are clustered together so that each unit is responsible for their own well, while reducing the amount of space required. This design reduces the sizes of individual lots. If preserved common open space is added to the individual lots, the lot sizes equal the minimum lot size required under current zoning.

Open Space

As with the Highland Street case scenario, the open space can be owned and maintained by a development association, corporation or trust, or by the Town. If the Town chooses to take ownership of the land as wetland conservation area, the subdivision road has ample room for access and parking for the conservation area.

Therefore, the open space serves not only as an amenity to the town, but reduces the cost of the development, making it more affordable. Additionally, the open space creates a buffer so that the clusters can not be seen from the road and vice-versa. This coincides with the rural neighborhood character. Finally, the open space, along with the commons, the private yards, and the passive solar access, provide light, space and fresh air, which enhance the quality of life for the residents.

Financing

Proforma Analysis

Increased density and decreased infrastructure costs reduces the cost to $121,800 per unit. By limiting the developer's profit, cost is reduced to $116,500 per unit (see Figure 8).

Figure 8: Comparitive cost chart for Cummings Road buildout scenario's.

Buildout Matrix -Per Unit Cost and Income Needed for Purchase

Cummings Road	Units	Cost	Income Needed
Existing Regulations (Single Family)	6	$150,236	$49,534
Subdivision Road Waiver	12	$165,357	$54,368
Higher Density (Duplex)	23	$121,873	$40,183
6% Profit/No Land Cost	23	$116,585	$37,695

Septic Title V

Both the single-family and cluster development buildout scenarios assume that septic systems conform to state Title V requirements. Usually, those requirements effectively limit buildout density. Title V requires that septic systems and septic leaching fields be located on the same lot as the

residence using that disposal facility. However, the Department of Environmental Protection, Division of Water Pollution Control (DWPC) has recently granted a waiver from this particular requirement for an affordable housing development in the the Town of Bolton.

If developments at Cummings Road and Old Belchertown Road were granted similar waivers, the sites might be built out at approximately 5% greater density. This might lower the per unit development costs. However, DWPC will only grant this waiver if the proponent demonstrates that the septic design layout will not significantly compromise the standards established for biological treatment. Furthermore, appropriate easement provisions would have to be included for each lot. The technical feasibility of this approach is entirely site specific, and would require detailed site investigations and engineering design for both this site and for the Old Belchertown Road site. The recent change in DWPC policy on this issue suggests that any site engineering studies should consider the feasibility of this approach.

Fiscal Impact

The fiscal impact of this development would reduce the yearly tax rate per average household by approximatly $1.10. However, at this time even with the alternative buildout, the Cummings Road site cannot be developed for affordable housing.

SECTION V.

Slope Constraints: Old Belchertown Road

Site Analysis

The site on Old Belchertown Road is located on a sharp curve of at least 60 degrees. Along this curve, the site has a slope of between 15-30% which pans out to 5-10% on top of the site., The steep slope gradually levels off to a buildable area at the top of the site. Within this site is a ridge line with western and southeastern facing slopes (see Figure 10). The entire parcel is vegetated with Eastern White Pines, Northern Red Oak, Red Pine and Sugar Maple. This picturesque setting is enhanced by a view towards the Pattaquattic Hill and the Ware River which runs parallel to the site.

Community Character

The surrounding neighborhood is low density residential use. The steep slope and ridge line on the site will separate the development area from the road. Thus, a housing developement will have little visual impact upon the community as long as the homes are at a scale which coincides with the physical features of the site.

The main constraints to the development of this site are road access to the buildable area, and the soil composition. There is an existing cleared and unpaved entrance to the site, which begins at the lowest point of the slope on Old Belchertown Road and follows the contours of the site. However, use of this entrance would pose a serious safety hazard as it is blind to oncoming traffic. The remaining site frontage on Old Belchertown Road is restricted by the extreme slopes.

Slopes andSoils

Soil composition also constrains developmnent at this site. Excessive soil permeability could lead to ground water pollution from septic tanks and road surface runoff. The most critical areas are along the ridge which is part of an aquifer region and contains Gloucester and Canton soils (GyE, CcC and CcD) (see Map 11). This area will be expensive to cut and fill for road construction. Slope and excessive hydrological permeability of GyE soils pose serious building limitations. Nonetheless, the buildable areas are composed of CcC and CcD which is a mixture of fine sandy loam and large stones (SCS, 1989:112). These soils pose only moderate building limitations. With proper density and distribution lines along the slopes, septic tanks will not pollute the ground-water. Although wetlands maps do not show any wetlands on this site, the buildable area contains what appear to be vernal pools.

Route 32 is approximately 0.8 miles from the site. The site is 3.5 miles from the center of town. The future residents will need private

transportation. A school bus serves this area. This site may not be economically viable for affordable housing if developed in compliance with existing zoning and subdivision regulations.

Buildout Scenario Under Existing Zoning Regulations with Proforma Analysis

The site is located in the Rural Residential 1 (Beaver Lake) zoning district. The setback and frontage regulations are similar to Cummings Road. The minimum frontage is 150 feet. The minimum side and front setback is thirty feet, and the minimum rear yard is forty feet. The minimum lot size is 60,000 square feet. The buildout scenario for Old Belchertown Road under exising conditions yields only seven units despite the 58.5 acres of land (see Map 12). This is due to the cul-de-sac regulation limiting the length of the road to 500 feet, as mentioned under Cummings Road. In order to keep this road at 500 feet, the entrance is at the most developable access point. However, this is located at a blind spot, which further makes this development infeasible. The cost of each of the seven units is $199,518.

With a subdivision road waiver, the site access problem is resolved with a gradual road beginning at one end of the slope and traversing slowly across the slope (see Map 13). The access road can then run along the ridge line allowing the steepest land to remain to the rear of each lot. The site can then be divided into 32 single family lots. This reduces the price per unit to $130,943. Although this increased density lowers the cost per unit, the infrastructure costs keep the price above the affordability threshold. The subdivision road in this scenario is constructed like the subdivision road at the Cummings Road site, with two one way lanes divided by a vegetated median strip (see Figure 9).

This layout looks like a traditional suburban development which does not fit in with the rural character of the neighborhood. This possible buildout scenario is under existing local regulations and without consideration for the character of the existing neighborhood.

Alternative Buildout scenario for Old Berchertown Road Site

As with the site at Cummings Road, a cluster development could also be used to develop affordable housing Old Belchertown Road. Cluster dev elopment is used to make it affordable. The clusters are designed to create commons, private space for personal recreation, and to maximize solar access (see Map 14). The cluster layout increases the number of units from thirty-two units to forty-two units. There are five clusters with six to ten single family units, depending on the amount of buildable land available with slopes less than twelve percent. This decreases costs by requiring less land preparation. Unlike a conventional single family subdivision that could be

developed under existing zoning, the clustered single family units increase preserved open space, and maintain the rural character of the community.

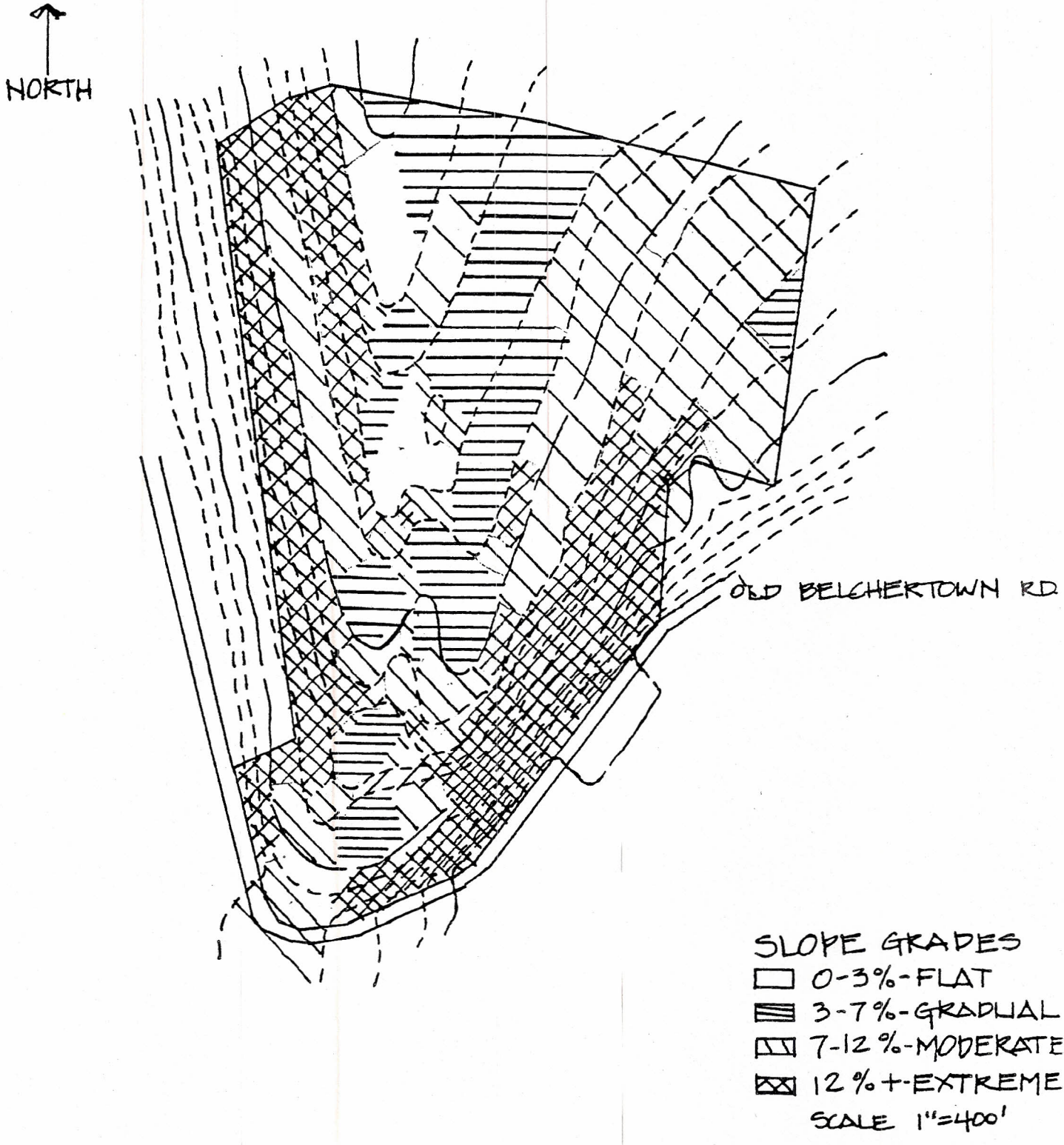
The private lots will be similar to those on Cummings Road, with ample space for septic systems and leaching fields. The leaching fields will extend down the slopes in a parallel manner, utilizing this otherwise unusable space. In order to minimize development costs, the wells will be clustered. Each unit has its own pump for which the unit owner is responsible. All unit pumps tap into the same well water.

The cluster development reduces the cost per unit because the cluster reduces the cost of infrastructure improvements. The road continues to follow the land contours, but has fewer curb cuts since the curb cuts are only required for access to the minor cul-de-sac streets.

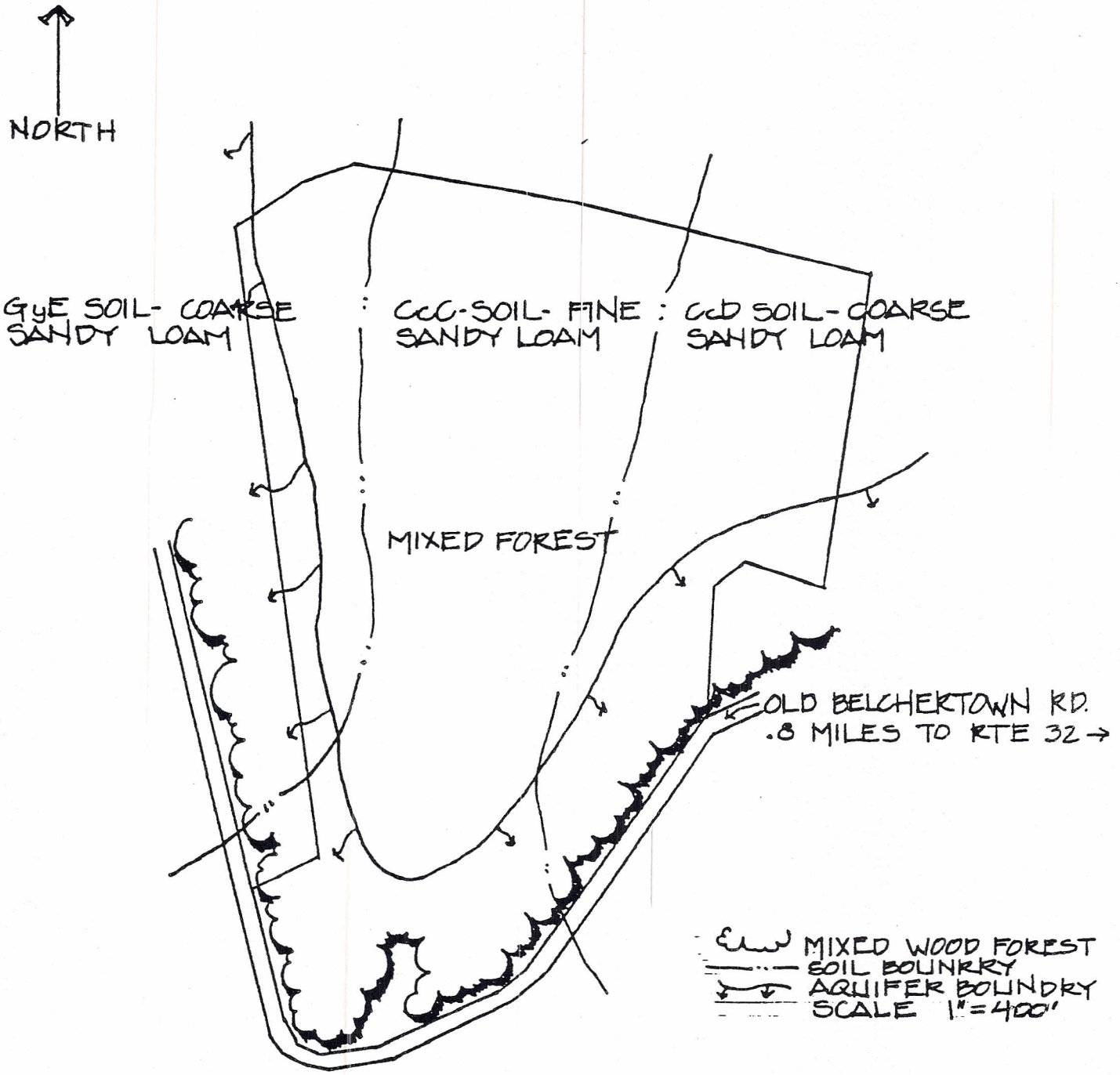
Ultimately, this design requires the development of approximately ten acres of land, leaving forty-eight and one-half acres of open space. This design protects the environment, retains the rural character of the neighborhood, and provides affordable housing for Ware by minimizing infrastructure costs. With forty-two units the price per unit is reduced to $110,389. As mentioned in the alternative buildout scenarios for the other two sites, the cost can be fruther reduced with limited profit development. This would reduce the cost to $91,706. This means that a household earning $29, 656 could afford to buy one of these homes. This is above the affordability threshhold, but households with the median household income could buy these homes.

Both the single-family and cluster development buildout scenarious assume that septic systems conform to state Title V requirements. Usually, those requirements effectively limit buildout density. Title V requires that septic systems and septic leaching fields be located on the same lot as the residence using that disposal facility. The Department of Environmental Protection, Division of Water Pollution Control (DWPC) has recently granted a waiver from this particular requirement for an affordable housing development in the the Town of Bolton. If developments at Cummings Road and Old Belchertown Road were granted similar waivers, the sites might be built out at approximately 5% greater density. This might lower the per unit development costs. DWPC will only grant this waiver if the proponent demonstrates that the septic design layout will not significantly compromise the standards established for biological treatment. Furthermore, appropriate easement provisions would have to be included for each lot. The technical feasibility of this approach is entirely site specific, and would require detailed site investigations and engineering design for both this site and for the Old Belchertown Road site. The recent change in DWPC policy on this issue suggests that any site engineering studies should consider the feasibility of this approach.

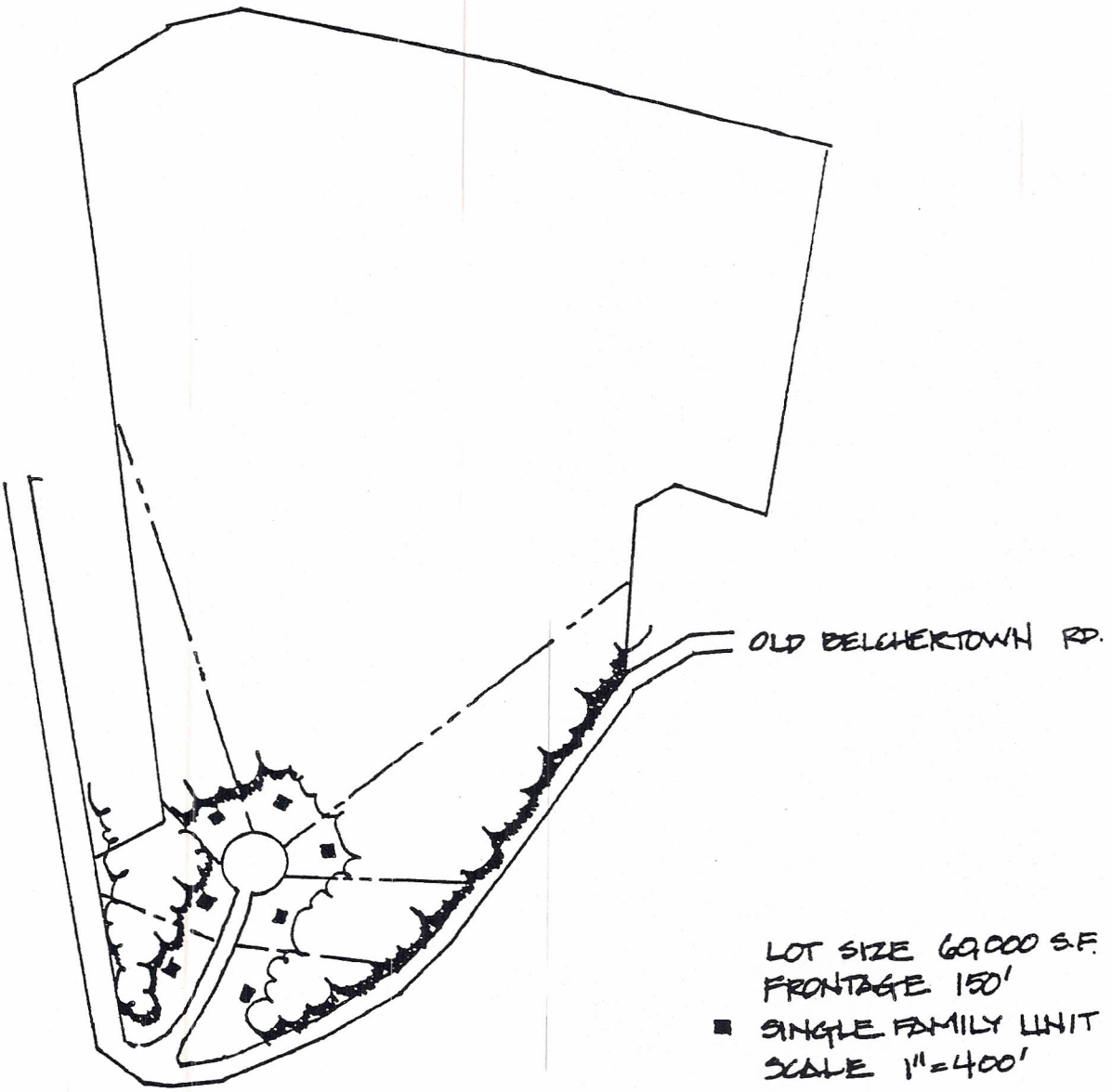
Map 10: Slope analysis of the Old Belchertown Road site, greater than 12% is costly to develop.



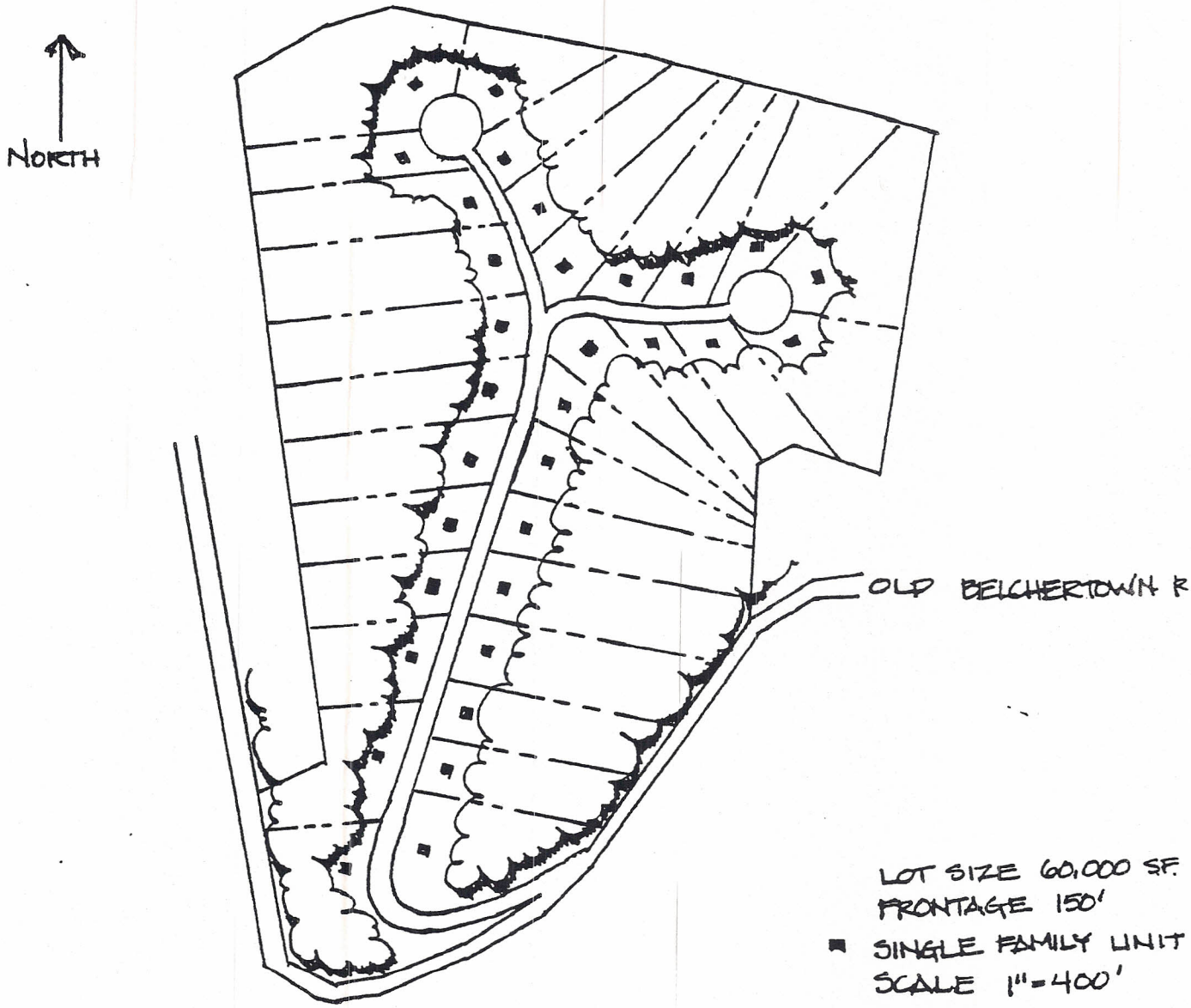
Map 11: Soil, aquifer and vegetation at the Old Belchertown Road site.



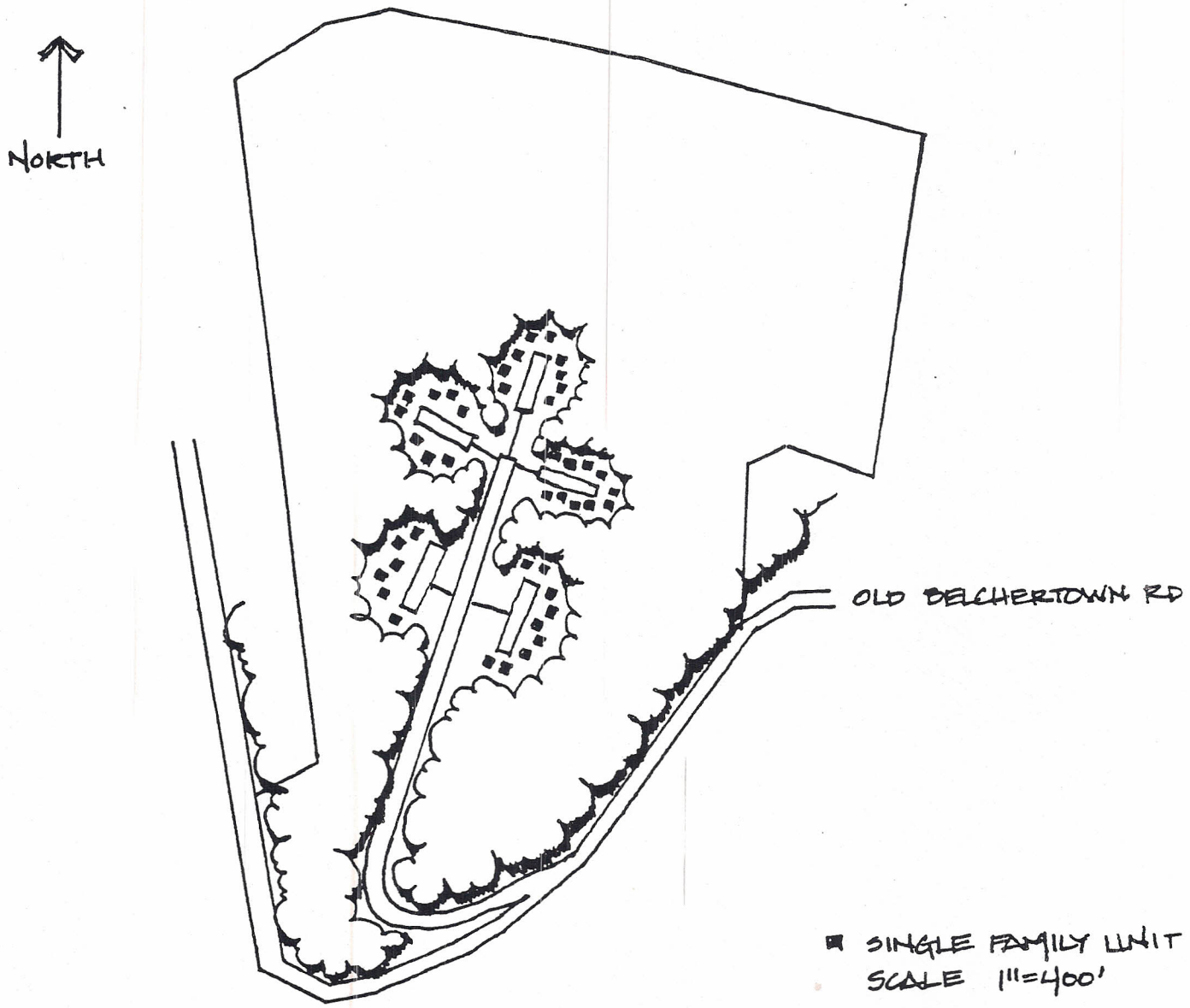
Map 12: Old Belchertown Road buildout scenario with the 500 foot culs-de-sac road length regulation



Map 13: Old Belchertown Road buildout scenario under existing regulations.



Map 14: Old Belchertown Road alternative buildout scenario.



Fiscal Impact

The fiscal impact of this development on the average taxpayer is $1.10 per year which has the same impact as the Highland Street Development. If all these developments were to be developed according to the alternative design with limited profit, the average tax payer would only be affected by an additional $1.10 per year. The Cummings Road development negates the cost to the Town of one of the other developments:

Highland Street	+ $1.10
Cummings Road	- $1.10
Old Belchertown Road	+ $1.10
	= $1.10

Figure 9: Costs For Old Belchertown Road

Buildout Matrix -Per Unit Cost and Income Needed for Purchase

Old Belchertown Road	Units	Cost	Income Needed
Existing Regulations (Single Family)	7	$199,518	$64,512
Subdivision Road Waiver	32	$130,943	$43,224
Higher Density (Duplex)	42	$110,389	$36,399
6% Profit/No Land Cost	42	$91,706	$29,656

SECTION VI

How Other Communities Have Met Affordable Housing Needs

As with any land development, residents will want affordable housing to enhance the quality of life in their community. This section of the report will illustrate the techniques that were used in other towns for the development of affordable housing. There are several viable techniques for creating affordable housing which are not pertinent to this particular study in the town of Ware, i.e. - adaptive re-use developments, linkage, land banks, and real estate transfer taxes. This study will be limited to those techniques which can be applied to the construction of affordable housing on privately-owned, undeveloped land parcels.

Land Trusts in Greenfield, Massachusetts

Community Land Trusts

The City of Greenfield is using a relatively new technique to create affordable housing for low to moderate income citizens. This technique is referred to as the community land trust for the preservation and production of long term affordability in housing. In the town of Greenfield, this mechanism is instituted through the organization known as the Greenfield Area Community Land Trust (GACLT), whose primary working members include the local clergy, bankers, tenants, and other concerned citizens.

The goals of GACLT include: acquiring and holding land and housing in trust in order to ensure the long term affordability of decent housing for low and moderate income people of Franklin County, and the preservation of open space and the responsible management of natural resources. The financing for this program comes largely from private lending sources, such as the United Savings Bank and the Massachusetts Housing Finance Agency. Other financing comes from grant support such as the Small Cities Block Grant Program.

Through this program, the GACLT has been able to complete various projects such as the construction of eight new units in a small cluster development, while preserving open space and river access along the Green River. This was made possible through the acquisition of undeveloped land from the private funds of GACLT. Low to moderate income families who might not otherwise be able to afford the average cost of a home in Greenfield are given the opportunity through low interest mortgage rates (example: 8.25%) and closing below the accessed value of the home. The developers are still given their normal market rate share of the profits through tax incentives, while the citizens are provided with more alternatives for affordability.

Zoning Reform in Crittenden County, Arkansas

Crittenden County, Arkansas is a case study which illustrates how the reformation and relaxation of various local zoning regulations can be utilized to help facilitate affordable housing. The Harvard Yard affordable housing development consists of 104 homes on 12.52 acres, where both detached and duplex units were made available. The cost of each home ranged from $26,885 to $35,040 and the sizes ranged from a 504-square foot efficiency to a 968-square-foot, three-bedroom/two-bath, respectively.

The use of the zero lot line configuration, cluster development, and the relaxation of HUD's Minimum Property Standards regulating wiring, stairways and plumbing. These techniques reduced construction costs and made these otherwise unaffordable homes affordable. The total savings per unit amounted to $6,294, which is approximately 22% of the average selling price of a comparable home in the area. Some examples from this study of how zoning was streamlined and deregulated on the local level are as follows:

1) The HUD regulations for stairways were accommodated through the use of a ladder leading up to the loft rather than the traditional stairs, which cost more to construct.

2) HUD regulations for wiring were waived so as not to have to install as many light switches and electric circuit outlets in the homes.

3) Materials for the home were pre-constructed on two-foot modules so as to control the amount of excess waste on the site. However, in this construction the developers did take the time to consider the preservation of community character.

SECTION VII

Local Controls For Affordable Housing Developments

Techniques to Encourage Affordable Developments

Ware's Role

This section will describe specific zoining techniques which facilitate the development of affordable housing.

Comprehensive Permits

Comprehensive Permit

Fewer than 10% of the residential units in Ware qualify as "affordable. " M.G.L. c. 774 provides that a developer may apply to the local Board of Appeal for a "comprehensive permit" to construct affordable housing in communities which do not meet this state mandated threshold.

The comprehensive permit allows the developer to exceed local land use density and environemtnal restrictions. The permit is reviewed and granted or denied at the local level. However, the developer may appeal a local comprehensive permit decision to the Housing Appeals Committee in the State Department of Community Affairs. The Department of Community Affairs may modify the conditions specified on a granted permit, or overturn the local decision to deny the permit.

The town can work with an affordable housing developer to reduce site preparation, design and construction costs. Higher costs force developers to construct at higher densities in order to make the development economically viable. Cost reduction and general site design flexibility can relieve some of the economic pressure and result in development densities and designs which respect the existing character of the communty. Cost reductions should be selective and sensitive to the the social values in the community.

Ware could establish local guidelines for comprehensive permits which incorporate community priorities and values, and make the developer's job easier by providing advance procedural guidance. The process of establishing local affordable housing density and site design guidelines helps the town control its future development.

Cluster Zoning

Cluster Zoning can be a useful technique for expanding the supply of affordable housing. Cluster zoning allows greater flexibility for dimensional requirements on individual lots while retaining the required gross density for

the development site as a whole. The structures are built together on one part of the site, using smaller frontage and setback areas than single family zones. The dwellings can be accessible by car using dramatically fewer feet of road. Road construction costs $90.00 per linear foot and is usually one of the most costly components of site development.

Cluster Zoning

The cluster development option may allow the developer greater density, because units can be concentrated at the parts of the site which present the fewest environmental constraints. The inherent flexibility of cluster zoning enables the developer to shift houses around the lots to protect environmental resources, and to preserve open space and natural features.

A study of cluster housing in the towns of Amherst and Concord, Massachusetts demonstrated that market values of cluster development units can appreciate at rates equal to conventional single family homes (Lacy, Center for Rural Massachusetts, 1990).

The Ware Subdivision Rules and Regulations acknowledge the use of cluster layouts. However, the Ware Zoning Bylaw would have to be amended to provide for the cluster development option.

Under M.G.L. c 40A, towns may allow clusters with a Special Permit. A town may also subject cluster developments to Site Plan Review. The Town of Ware could adopt cluster zoning for affordable housing or market rate developments, or both.

Zero Lot Lines

Zero Lot Lines

Zero lot line zoning provisions can be a tool for a town to selectively allow greater density than would be allowed in a single family subdivision, but otherwise fully adhering to the single family layout pattern.

Zero lot lines allow structures to ignore side yard setback lines on one side of the lot only. This limitation prevents the development of narrow rectangular lots and maintains an open space buffer between dwellings. The technique also allows the developer more flexibility to develop a higher density at sites with wetlands, but protecting those areas by locating the structures and driveways away from the wetland and wetland transition zone.

The zero lot line provision may also be suitable for location of duplex structures on two lots with the partitioning party wall located along the lot line. The Ware Zoning Bylaw does not allow for zero lot lines.

Density Bonus

Density Bonus

A town may want to allow limited higher density development without making an across the board change for an entire zoning district. A bonus system provides the developer the option of higher density in exchange for the provision of specified amenities. Typical amenities include public parks, or public access easements to lakes or recreational facilities. A density bonus may provide an incentive for any amenity, including guaranteed affordable units. A possibility for a cluster development using a density bonus may be a community laundry facility, thus allowing the developer to construct smaller dwelling units. Another possible amenity would be a day-care facility.

Land Acquisition

Land Aquisition

One criteria for selecting affordable housing sites is the proximity to schools, retail stores and transportation . Frequently, the most convenient locations are also the most expensive. In many instances, land becomes more expensive when served by public infrastructure like roads, water and sewer lines. It can benefit the town's future affordable housing needs to acquire land along the infrastructure before the market appreciates the land value beyond the economic threshold for affordable housing. The town may purchase or acquire a purchase option on strategic desirable locations. If the purchase option sets a price cap, this option provides the town time to plan while lessening the cost of future development.

Planned Unit Development

Planned Unit Development

A "planned unit development" provides additional alternatives for any of these three sites. A planned unit development could create amenities for the entire neighbrohood. These amenities might include day-care facilities, a laundramat, or a store serving the community.

In design terms, one unit in a cluster could be set aside for a day care facility, or any of a number of other small businesses, plus an administrative office for the cluster development assoication. This would generate only a minimal amount of increased traffic on the subdivision roads since the amenities could be set up only being available to the surrounding community.

This innovative design would require amendment to the zoning bylaw. it would create job opportunities for the residents, while increasing not only their quality of life, but that of the commuity which would have easier access to day care, and shopping facilities.

SECTION VIII

Financial Incentives for Developers and Homebuyers

Low Interest Loans

Homeownership Opportunity Program (HOP)

This program provides low or moderate income households with reductions in interest MHFA loans. The lower interest loans are available to purchasers of single-family homes and condominiums. At least 5% of the units in a development must be made available for sale to the Ware Housing Partnership. Some restrictions apply to resale of the properties to assure that they remain affordable.

FHA Mortgages

FHA mortgages may be obtained by homebuyers or housing developers. The Federal Housing Administration (FHA) mortgage cost the homebuyer less than a conventional mortgage because the FHA insures the mortgage lender ("mortgagee") against a financial loss in the event of a loan default by the borrower. The guarantee enables the lending institution to give the mortgage at terms more favorable to the borrower (i.e. lower interest, 20-30 year repayment period).

If the development is less than one year old and has not been approved by the Department of Housing and Urban Development prior to construction, the borrower/purchaser must make a downpayment of 10% of the purchase price. In all other cases, the borrower would only have to provide a downpayment by the formula:

(3% of first $25,000) + (5% of amount greater than 25,000)

This would amount to:

$7,000 for $125,000 home (effectively 5.% of total)
$5,750 for $100,000 home (effectively 5.75% of total)
$3750 for $80,000 home (effectively 4.69% of total)

State Housing Assistance for Rental Production (SHARP)

This program subsidizes MHFA mortgages and can lower interest rates to 5%. The program is designed for construction of mixed income rental housing. The program is not now funded, but probably will be in the future. These are a few options for which the Ware Partnership can research further to provide homeownership opportunities in Ware.

SECTION IX

Conclusion and Recommendations: What's Next?

Affordable housing developments should fit with the existing character of the neighborhood. Assuming that this criterion is met, the site analysis demonstrates that of the three sites, the Highland Street parcel is the most economically viable for affordable housing. Four major factors make Highland Street an attractive location:

- convenient location near downtown Ware
- the appropriate fit of duplex homes in a neighborhood which already has a mixture of single family and multi-family housing
- favorable topography and hydrology
- the availability of public water and sewer service

However, development of affordable housing at this site will require a density of 12 units, two more than permitted under the current local zoning regulations. A zoning variance or zoning by-law amendment would be necessary to construct the additional two units which make this location economically viable for affordable housing.

The Old Belchertown Road site may be economically viable for affordable housing. Steep slopes may make construction expensive at this site. Affordable housing construction would require all of the following:

- Planning Board waiver of the subdivision control regulation limiting the length of a culs-de-sac to 500 feet
- Amendment of the Zoning By-law to allow cluster developments by special permit
- Road construction costs not to exceed $90.00 per linear foot
- No more than 1200 lineal feet of road
- Mortgages with interest rate discounts sponsored by state or federal programs
- Developer's profit limited to a maximum of 6%

•Land aquisition NOT passed on to the homebuyer

A detailed engineering study of this site may change the road construction cost estimate determined by this study.

The Cummings Road site has significant wetland and hydrologic constraints which make development of affordable housing unlikely. Use of all of the same techniques also specified for Old Belchertown Road lowers the development cost to $117,000 per unit. An annual income of $37,000 would be required to purchase a home at this price. The affordability threshold used in this report is based on an annual income of $30,000. Cummings Road parcel should not be considered for the development of affordable housing.

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Key

MSY - Minimum Side Yard
MFY - Minimum Front Yard
MBY - Minimum Back Yard
FP - Flood Plain
AQ - Aquifer
WL - Wetlands
sf - Single Family
DTR - Downtown Residential District
RR1 - Rural Residential District 1
RR2 - Rural Residential District 2
SP - Special Permit

	A	B
1	**Name of Site**	HIGHLAND STREET (Owned by Catholic Diocese of
2		Springfield)
3	Size in Acres	10 lots/ 2.77 acres
4	Developable Site Area	2.77 acres
5	**PHYSICAL FACTORS**	
6	Frontage on Street	on all sides; need 125' min. for sf
7	Two Means of Access	possible
8	Shape	rectangular
9	Topography	8-15 percent slope
10	Ledge/Rock Ourcropping	bedrock; at least 60"
11	Soil Types	HgC-Hinckley loamy sand, deep
12	Wetlands and Hydrology	not in FP (1986), AQ (1986) or WL (1986)
13		excessivley drained, low water capacity,rapid permeab.
14	Existing Buildings, Roads, and Trails	foot trail across sites
15	Vegetation	Eastern white pine, Northern red oak, red pine, sugar maple
16	Solar Orientation	west facing slope
17	Community Character	older neighborhood s-f on 3 sides, one commercial use
18	Noise/Visual Impacts	low noise level, pleasant views
19	Easements or other legal restrictions	unknown
20	Historical or Arch. Significant	none
21	**ADEQUACY OF PUBLIC FACILITIES**	
22	Sewer and Water	Town
23	Storm Drain	Town
24	Proximity to collector or Arterial St.	N/A
25	**PROXIMITY TO**	
26	Public Transportation	school bus drops off children around parcel
27	Shopping/Services	near downtown
28	Recreation Facilities	" "
29	Neighborhood Open Space	yes
30	Other Residential Areas	sf homes from Victorian to 1950's
31	Other Affordable Housing	attached development near eastern end
32	Consistency with Other Town Object.	one-two family affordable homes possible
33	**EXISTING ZONING**	DTR, high density resid.
34	single family	yes; MSY 20; MFY 25;MRY 30; 2.5 st.
35	duplex	SP; MSY 20; MFY 30; MRY 30; 2.5 st.
36	min. lot size	sf-12,000; duplex-40,000 w/ 150 frontage by SP
37	parking	1.5/unit +1 space for 10 req. resid. spaces (@9x20 min.)
38	other	possible 3,4 or multi-family see p.32
39	**POTENTIAL SITE DEV. COSTS**	
40	Site	$330,000
41	Streets	N/A except driveways
42	Utilities	N/A

Name of Site	Cumming Road
	(Owned by Kathy and Phyllis Robidox)
Size in Acres	approx. 33 acres
Developable Site Area	
PHYSICAL FACTORS	
Frontage on Street	minimal existing; proposed site roads
Two Means of Access	possible
Shape	irregular
Topography	approx. 5% slope
Ledge/Rock Ourcropping	bedrock at least 60"
Soil Types	HgC-Hinckley loamy sand, deep
Wetlands and Hydrology	in FP (1986), AQ (1986) and WL (1986)
	excessivley drained, low water capacity,rapid permeab.
Existing Buildings, Roads, and Trails	foot trails
Vegetation	Eastern white pine, Northern red oak, red pine, sugar maple
Solar Orientation	eastern facing slope
Community Character	rural, new homes
Noise/Visual Impacts	low noise level, pleasant views
Easements or other legal restrictions	
Historical or Arch. Significant	none
ADEQUACY OF PUBLIC FACILITIES	
Sewer and Water	none; proposed sewer extension on Greenwich Road
Storm Drain	none
Proximity to collector or Arterial St.	.25 mile
PROXIMITY TO	
Public Transportation	none
Shopping/Services	town
Recreation Facilities	town
Neighborhood Open Space	private
Other Residential Areas	new homes, tract homes, trailors on large lots
Other Affordable Housing	unknown
Consistency with Other Town Object.	yes
EXISTING ZONING	RR2 (North Ware); moderate density; lim. comm. bus. for growth
single family	yes; MSY 30; MFY 30;MRY 40; 2.5 st.
duplex	yes; MSY 30; MFY 30; MRY 40; 2.5 st.
min. lot size	sf-60,000; duplex-80,000
frontage	sf-150; duplex-200
parking	1.5/unit +1 space for 10 req. resid. spaces (@9x20 min.)
POTENTIAL SITE DEV. COSTS	
Site	$99,900
Streets	
Utilities	

Name of Site	Old Belchertown Road	
	(Owner-Mallard Development Co.)	
Size in Acres	approx. 58.5 acres	
Developable Site Area		
PHYSICAL FACTORS		
Frontage on Street	for 12 lots	
Two Means of Access	possible	
Shape	irregular; steep; flattens on top	
Topography	5-10% and >10% slope	
Ledge/Rock Ourcropping	bedrock at least 60"	
Soil Types	CcC, CcD, GyE, HgC; rapid permeability	
Wetlands and Hydrology	partially in AQ (1986)	
Existing Buildings, Roads, and Trails	none	
Vegetation	Eastern white pine, Northern red oak, red pine, sugar maple	
Solar Orientation	southeast and western slopes	
Community Character	rural, new homes	
Noise/Visual Impacts	low noise level, great view toward Pattaquattic Hill and Ware river	
Easements or other legal restrictions		
Historical or Arch. Significant	none	
ADEQUACY OF PUBLIC FACILITIES		
Sewer and Water	none	
Storm Drain	none	
Proximity to collector or Arterial St.	.25 mile to route 32	
PROXIMITY TO		
Public Transportation	none	
Shopping/Services	.25 mile	
Recreation Facilities	unknown	
Neighborhood Open Space	unknown	
Other Residential Areas	new homes; some historic homes and farms; mod. lot size	
Other Affordable Housing	unknown	
Consistency with Other Town Object.	yes	
EXISTING ZONING	RR1(Beaver Lake); low density; lim. comm. bus. for growth	
single family	yes; MSY 30; MFY 30;MRY 40; 2.5 st.	
duplex	yes; MSY 30; MFY 30; MRY 40; 2.5 st.	
min. lot size	sf-60,000; duplex-80,000 by SP	
frontage	sf-150; duplex-200	
parking	1.5/unit +1 space for 10 req. resid. spaces (@9x20 min.)	
POTENTIAL SITE DEV. COSTS		
Site	$395,000	
Streets	need internal	
Utilities		

Key
C.Y. - Cubic Yard
L.F. - Lineal Feet
S.F. - Square Feet

Highland Street Duplex		Quant.	Units	Cost	Total	Sub Totals	Notes
Costs							
	Cost of the land				$330,000.00		
	Number of Units	12					
Site Costs							
	Site Preperation	1.40	Acres	$3,000.00	$4,200.00		
	Strip and Stockpile	1,129	C.Y.	$0.54	$609.84		
	Cut/Fill	565	C.Y.	$4.00	$2,258.67		
	Roads (with curb and walk)	0	L.F.	$90.00	$0.00		
	Parking	4,320	S.F.	$3.00	$12,960.00		
	Drainage	0	L.F.	$25.00	$0.00		
	Swales	0	L.F.	$3.00	$0.00		
	Sewer and Water	0	L.F.	$55.00	$0.00		
	Lighting (roads)	0	Per	$2,500.00	$0.00		
	Lighting (parking)	0	Acres	$20,000.00	$0.00		
	Planting-general	50,311	S.F.	$0.50	$25,155.50		
	Trees-shade	15	Per	$400.00	$6,000.00		
	Shrubs	60	Per	$85.00	$5,100.00		
	Turf-hydroseed	24,500	S.F.	$0.50	$12,250.00		
						$398,534.01	**Subtotal**
Structure							
	Building Construction	12,000	S.F.	$45.00	$540,000.00		
	Septic System	0	Unit	$3,000.00	$0.00		
	Infrastructure Hookup	12	Unit	$250.00	$3,000.00		
	Appliances	12	Unit	$1,500.00	$18,000.00		
						$959,534.01	**Subtotal**
Soft Costs							
	Architect/Landscape Architect		5%	of sub total	$47,976.70		
	Planner/Engineer		1.50%	of sub total	$14,393.01		
	General Adminstration		1%	of sub total	$9,595.34		
	Legal Costs		1%	of sub total	$9,595.34		
	Real Estate Fees		1%	of sub total	$9,595.34		
	Interest		8.50%	of sub total	$81,560.39		
	Profit		12%	of sub total	$115,144.08		
						$1,132,250.13	**Total Cost**
						$94,354.18	**Total Cost per Unit**

Duplex w/ no land cost		Quant.	Units	Cost	Total	Sub Totals	Notes
Costs							
	Cost of the land				$0.00		
	Number of Units	12					
Site Costs							
	Site Preperation	1.40	Acres	$3,000.00	$4,200.00		
	Strip and Stockpile	1,129	C.Y.	$0.54	$609.84		
	Cut/Fill	565	C.Y.	$4.00	$2,258.67		
	Roads (with curb and walk)	0	L.F.	$90.00	$0.00		
	Parking	4,320	S.F.	$3.00	$12,960.00		
	Drainage	0	L.F.	$25.00	$0.00		
	Swales	0	L.F.	$3.00	$0.00		
	Sewer and Water	0	L.F.	$55.00	$0.00		
	Lighting (roads)	0	Per	$2,500.00	$0.00		
	Lighting (parking)	0	Acres	$20,000.00	$0.00		
	Planting-general	50,311	S.F.	$0.50	$25,155.50		
	Trees-shade	15	Per	$400.00	$6,000.00		
	Shrubs	60	Per	$85.00	$5,100.00		
	Turf-hydroseed	24,500	S.F.	$0.50	$12,250.00		
						$68,534.01	**Subtotal**
Structure							
	Building Construction	12,000	S.F.	$45.00	$540,000.00		
	Septic System	0	Unit	$3,000.00	$0.00		
	Infrastructure Hookup	12	Unit	$250.00	$3,000.00		
	Appliances	12	Unit	$1,500.00	$18,000.00		
						$629,534.01	**Subtotal**
Soft Costs							
	Architect/Landscape Architect		5%	of sub total	$31,476.70		
	Planner/Engineer		1.50%	of sub total	$9,443.01		
	General Adminstration		1%	of sub total	$6,295.34		
	Legal Costs		1%	of sub total	$6,295.34		
	Real Estate Fees		1%	of sub total	$6,295.34		
	Interest		8.50%	of sub total	$53,510.39		
	Profit		6%	of sub total	$37,772.04		
						$742,850.13	**Total Cost**
						$61,904.18	**Total Cost per Unit**

Cummings Existing		Quantity	Units	Cost	Total	Sub Totals	Notes
Costs							
	Cost of the land				$99,900		
	Number of Structures	12					
Site Costs							
	Site Preperation	10	Acres	$3,000	$30,000		
	Strip and Stockpile	8,067	C.Y.	$0.54	$4,356		
	Cut/Fill	4,033	C.Y.	$4	$16,133		
	Roads (with curb and walk)	2,100	L.F.	$90	$189,000		
	Parking	4,320	S.F.	$3	$12,960		
	Drainage	2,100	L.F.	$30	$63,000		
	Swales	750	L.F.	$3	$2,250		
	Sewer and Water	2,460	L.F.	$45	$110,700		
	Lighting (roads)	0	Per	$2,500	$0		
	Lighting (parking)	0	Acres	$20,000	$0		
	Planting-general	419,100	S.F.	$0.50	$209,550		
	Trees-shade	18	Per	$400	$7,200		
	Shrubs	72	Per	$85	$6,120		
	Turf-hydroseed	46,800	S.F.	$0.50	$23,400		
						$774,569	**Subtotal**
Structure							
	Building Construction	14,400	S.F.	$45	$648,000		
	Septic System	12	Unit	$4,000	$48,000		
	Well System	12	Unit	$3,000	$36,000		
	Infrastructure Hookup	12	Unit	$150	$1,800		
	Appliances	12	Unit	$1,500	$18,000		
						$1,526,369	**Subtotal**
Soft Costs							
	Architect/Landscape Architect		5%	of sub total	$76,318		
	Planner/Engineer		1.50%	of sub total	$22,896		
	General Adminstration		1%	of sub total	$15,264		
	Legal Costs		1%	of sub total	$15,264		
	Real Estate Fees		1%	of sub total	$15,264		
	Interest		8.50%	of sub total	$129,741		
	Profit		12%	of sub total	$183,164		
						$1,984,280	**Total Cost**
						$165,357	**Total Cost per unit**

Cummings Road Alt. 1		Quantity	Units	Cost	Total	Sub Totals	Notes
Costs							
	Cost of the land				$99,900		
	Number of Structures	23					
Site Costs							
	Site Preperation	6.10	Acres	$3,000	$18,300		
	Strip and Stockpile	4,921	C.Y.	$0.54	$2,657		
	Cut/Fill	2,460	C.Y.	$4	$9,841		
	Roads (with curb and walk)	2,500	L.F.	$90	$225,000		
	Parking	6,480	S.F.	$3	$19,440		
	Drainage	2,500	L.F.	$30	$75,000		
	Swales	750	L.F.	$3	$2,250		
	Sewer and Water	0	L.F.	$45	$0		
	Lighting (roads)	0	Per	$2,500	$0		
	Lighting (parking)	0	Acres	$20,000	$0		
	Planting-general	385,000	S.F.	$0.50	$192,500		
	Trees-shade	35	Per	$400	$13,800		
	Shrubs	138	Per	$85	$11,730		
	Turf-hydroseed	89,700	S.F.	$0.50	$44,850	$715,268	**Subtotal**
Structure							
	Building Construction	27,600	S.F.	$45	$1,242,000		
	Septic System	23	Unit	$4,000	$92,000		
	Well System	23	Unit	$3,000	$69,000		
	Infrastructure Hookup	23	Unit	$150	$3,450		
	Appliances	23	Unit	$1,500	$34,500		
						$2,156,218	**Subtotal**
Soft Costs							
	Architect/Landscape Architect		5%	of sub total	$107,811		
	Planner/Engineer		1.50%	of sub total	$32,343		
	General Adminstration		1%	of sub total	$21,562		
	Legal Costs		1%	of sub total	$21,562		
	Real Estate Fees		1%	of sub total	$21,562		
	Interest		8.50%	of sub total	$183,279		
	Profit		12%	of sub total	$258,746		
						$2,803,084	**Total Cost**
						$121,873	**Total Cost per unit**

Old Belchertown Rd. Exist.		Quant.	Units	Cost	Total	Sub Totals	Notes
Costs							
	Cost of the land				$395,000.00		
	Number of Units	7					
Site Costs							
	Site Preperation	9.00	Acres	$3,000.00	$27,000.00		
	Strip and Stockpile	7,260	C.Y.	$0.54	$3,920.40		
	Cut/Fill	7,260	C.Y.	$4.00	$29,040.00		
	Roads (with curb and walk)	580	L.F.	$90.00	$52,200.00		
	Parking	2,160	S.F.	$3.00	$6,480.00		
	Drainage	580	L.F.	$25.00	$14,500.00		
	Swales	0	L.F.	$3.00	$0.00		
	Sewer and Water	0	L.F.	$55.00	$0.00		
	Lighting (roads)	0	Per	$2,500.00	$0.00		
	Lighting (parking)	0	Acres	$20,000.00	$0.00		
	Planting-general	392,040	S.F.	$0.50	$196,020.00		
	Trees-shade	11	Per	$400.00	$4,200.00		
	Shrubs	42	Per	$85.00	$3,570.00		
	Turf-hydroseed	27,300	S.F.	$0.50	$13,650.00		
						$745,580.40	**Subtotal**
Structure							
	Building Construction	8,400	S.F.	$45.00	$378,000.00		
	Septic System	8	Unit	$3,000.00	$24,000.00		
	Well	8	Unit	$3,000.00	$24,000.00		
	Infrastructure	0	Unit	$250.00	$0.00		
	Appliances	8	Unit	$1,500.00	$12,000.00		
						$1,183,580.40	**Subtotal**
Soft Costs							
	Architect/Landscape Architect		5%	of sub total	$59,179.02		
	Planner/Engineer		1.50%	of sub total	$17,753.71		
	General Adminstration		1%	of sub total	$11,835.80		
	Legal Costs		1%	of sub total	$11,835.80		
	Real Estate Fees		1%	of sub total	$11,835.80		
	Interest		8.50%	of sub total	$100,604.33		
	Profit		12%	of sub total	$142,029.65		
						$1,396,624.87	**Total Cost**
						$199,517.84	**Total Cost per Unit**

Old Belchertown Rd. Alt.		Quant.	Units	Cost	Total	Sub Totals	Notes
Costs							
	Cost of the land				$395,000		
	Number of Units	42					
Site Costs							
	Site Preperation	9.20	Acres	$3,000	$27,600		
	Strip and Stockpile	7,421	C.Y.	$0.54	$4,008		
	Cut/Fill	7,421	C.Y.	$4	$29,685		
	Roads (with curb and walk)	4,800	L.F.	$90	$432,000		
	Parking	15,120	S.F.	$3	$45,360		
	Drainage	3,000	L.F.	$25	$75,000		
	Swales	2,850	L.F.	$3	$8,550		
	Sewer and Water	0	L.F.	$55	$0		
	Lighting (roads)	0	Per	$2,500	$0		
	Lighting (parking)	0	Acres	$20,000	$0		
	Planting-general	400,752	S.F.	$0.50	$200,376		
	Trees-shade	63	Per	$400	$25,200		
	Shrubs	252	Per	$85	$21,420		
	Turf-hydroseed	163,800	S.F.	$0.50	$81,900		
						$1,346,099	**Subtotal**
Structure							
	Building Construction	50,400	S.F.	$45	$2,268,000		
	Septic System	42	Unit	$3,000	$126,000		
	Well	42	Unit	$3,000	$126,000		
	Infrastructure	0	Unit	$250	$0		
	Appliances	42	Unit	$1,500	$63,000		
Soft Costs						$3,929,099	**Subtotal**
	Architect/Landscape Architect		5%	of sub total	$196,455		
	Planner/Engineer		1.50%	of sub total	$58,936		
	General Adminstration		1%	of sub total	$39,291		
	Legal Costs		1%	of sub total	$39,291		
	Real Estate Fees		1%	of sub total	$39,291		
	Interest		8.50%	of sub total	$333,973		
	Profit		12%	of sub total	$471,492		
						$4,636,337	**Total Cost**
						$110,389	**Total Cost per Unit**

		Quant.	Units	Cost	Total	Sub Totals	Notes
Old Belchertown Rd. w/ no land cost							
Costs							
	Cost of the land				$0		
	Number of Units	42					
Site Costs							
	Site Preperation	9.20	Acres	$3,000	$27,600		
	Strip and Stockpile	7,421	C.Y.	$0.54	$4,008		
	Cut/Fill	7,421	C.Y.	$4	$29,685		
	Roads (with curb and walk)	1,800	L.F.	$90	$162,000		
	Parking	15,120	S.F.	$3	$45,360		
	Drainage	3,000	L.F.	$25	$75,000		
	Swales	2,850	L.F.	$3	$8,550		
	Sewer and Water	0	L.F.	$55	$0		
	Lighting (roads)	0	Per	$2,500	$0		
	Lighting (parking)	0	Acres	$20,000	$0		
	Planting-general	400,752	S.F.	$0.50	$200,376		
	Trees-shade	63	Per	$400	$25,200		
	Shrubs	252	Per	$85	$21,420		
	Turf-hydroseed	163,800	S.F.	$0.50	$81,900		
						$681,099	**Subtotal**
Structure							
	Building Construction	50,400	S.F.	$45	$2,268,000		
	Septic System	42	Unit	$3,000	$126,000		
	Well System	42	Unit	$3,000	$126,000		
	Infrastructure	0	Unit	$250	$0		
	Appliances	42	Unit	$1,500	$63,000	$3,264,099	**Subtotal**
Soft Costs							
	Architect/Landscape Architect		5%	of sub total	$163,205		
	Planner/Engineer		1.50%	of sub total	$48,961		
	General Adminstration		1%	of sub total	$32,641		
	Legal Costs		1%	of sub total	$32,641		
	Real Estate Fees		1%	of sub total	$32,641		
	Interest		8.50%	of sub total	$277,448		
	Profit		6%	of sub total	$195,846		
						$3,851,637	**Total Cost**
						$91,706	**Total Cost per Unit**

	HIGHLAND STREET FINANCIAL WORKSHEET	
	Duplex	
What salary do you need to earn in order to afford this house?		
	PURCHASE PRICE:	**$94,354.00**
1. EXPENSE		
	A. Down payment (10%)	$9,435.40
	B. Mortgage	$84,918.60
	C. Monthly mortgage payment for a 30 year mortgage at	
	8.75% interest (approximate)	$667.93
	D. Yearly mortgage payment	$8,015.16
	E. Taxes per year (@ $10.74/1000)	$1,013.36
	F. Insurance per year (assumed)	$303.25
	G. Yearly PITI (priciple & interest, taxes and insurance)	$9,331.78
	(Add lines D,E & F)	
	H. Divide by .30 (30% of yearly income allowed to be	$31,105.92
	spent on PITI)	
	I. (=) Salary needed to support mortgage	**$31,105.92**
2. CLOSING FEES		
	A. Down payment (10%)	$9,435.40
	B. Points (percent of mortgage: 1.88 points)	$1,596.47
	C. Transfer tax (0.5% of purchase price on 1st	$500.00
	$100,000, 1.25% on remainder)	
	D. Legal Fees	$167.95
	E. Insurance on mortgage (if less than 20% down)	$404.21
	F. Appraisal	$150.97
	(Add lines A-F above) SUBTOTAL:	
	Amount Needed Down to Buy Home	**$12,255.00**
Source: LandUse, Inc., Affordable Housing Models Project Town of Shelburne, May 1990		

	CUMMINGS ROAD FINANCIAL WORKSHEET	
	Existing Regulations	
What salary do you need to earn in order to afford this house?		
	PURCHASE PRICE:	**$150,236.00**
1. EXPENSE		
	A. Down payment (10%)	$15,023.60
	B. Mortgage	$135,212.40
	C. Monthly mortgage payment for a 30 year mortgage at	
	8.75% interest (approximate)	$1,063.65
	D. Yearly mortgage payment	$12,763.80
	E. Taxes per year (@ $10.74/1000)	$1,613.53
	F. Insurance per year (assumed)	$482.86
	G. Yearly PITI (priciple & interest, taxes and insurance)	$14,860.19
	(Add lines D,E & F)	
	H. Divide by .30 (30% of yearly income allowed to be	$49,533.98
	spent on PITI)	
	I. (=) Salary needed to support mortgage	**$49,533.98**
2. CLOSING FEES		
	A. Down payment (10%)	$15,023.60
	B. Points (percent of mortgage: 1.88 points)	$2,541.99
	C. Transfer tax (0.5% of purchase price on 1st	$1,127.95
	$100,000, 1.25% on remainder)	
	D. Legal Fees	$267.42
	E. Insurance on mortgage (if less than 20% down)	$643.61
	F. Appraisal	$240.38
	(Add lines A-F above) SUBTOTAL:	
	Amount Needed Down to Buy Home	**$19,844.95**
Source: LandUse, Inc., Affordable Housing Models Project Town of Shelburne, May 1990		

	CUMMINGS ROAD FINANCIAL WORKSHEET	
	Subdivision Road Waiver	
What salary do you need to earn in order to afford this house?		
	PURCHASE PRICE:	**$165,357.00**
1. EXPENSE		
	A. Down payment (10%)	$16,535.70
	B. Mortgage	$148,821.30
	C. Monthly mortgage payment for a 30 year mortgage at	
	8.75% interest (approximate)	$1,166.91
	D. Yearly mortgage payment	$14,002.92
	E. Taxes per year (@ $10.74/1000)	$1,775.93
	F. Insurance per year (assumed)	$531.46
	G. Yearly PITI (priciple & interest, taxes and insurance)	$16,310.31
	(Add lines D,E & F)	
	H. Divide by .30 (30% of yearly income allowed to be	$54,367.71
	spent on PITI)	
	I. (=) Salary needed to support mortgage	**$54,367.71**
2. CLOSING FEES		
	A. Down payment (10%)	$16,535.70
	B. Points (percent of mortgage: 1.88 points)	$2,797.84
	C. Transfer tax (0.5% of purchase price on 1st	$1,316.96
	$100,000, 1.25% on remainder)	
	D. Legal Fees	$294.34
	E. Insurance on mortgage (if less than 20% down)	$708.39
	F. Appraisal	$264.57
	(Add lines A-F above) SUBTOTAL:	
	Amount Needed Down to Buy Home	**$21,917.80**
Source: LandUse, Inc., Affordable Housing Models Project Town of Shelburne, May 1990		

	CUMMINGS ROAD FINANCIAL WORKSHEET	
	Duplex	
What salary do you need to earn in order to afford this house?		
	PURCHASE PRICE:	**$121,873.00**
1. EXPENSE		
	A. Down payment (10%)	$12,187.30
	B. Mortgage	$109,685.70
	C. Monthly mortgage payment for a 30 year mortgage at	
	8.75% interest (approximate)	$862.85
	D. Yearly mortgage payment	$10,354.20
	E. Taxes per year (@ $10.74/1000)	$1,308.92
	F. Insurance per year (assumed)	$391.70
	G. Yearly PITI (priciple & interest, taxes and insurance)	$12,054.82
	(Add lines D,E & F)	
	H. Divide by .30 (30% of yearly income allowed to be	$40,182.72
	spent on PITI)	
	I. (=) Salary needed to support mortgage	**$40,182.72**
2. CLOSING FEES		
	A. Down payment (10%)	$12,187.30
	B. Points (percent of mortgage: 1.88 points)	$2,062.09
	C. Transfer tax (0.5% of purchase price on 1st	$773.41
	$100,000, 1.25% on remainder)	
	D. Legal Fees	$216.93
	E. Insurance on mortgage (if less than 20% down)	$522.10
	F. Appraisal	$195.00
	(Add lines A-F above) SUBTOTAL:	
	Amount Needed Down to Buy Home	**$15,956.84**
Source: LandUse, Inc., Affordable Housing Models Project Town of Shelburne, May 1990		

OLD BELCHERTOWN ROADFINANCIAL WORKSHEET		
	Subdivision Waiver	
What salary do you need to earn in order to afford this house?		
	PURCHASE PRICE:	**$130,943**
1. EXPENSE		
	A. Down payment (10%)	$13,094
	B. Mortgage	$117,849
	C. Monthly mortgage payment for a 30 year mortgage at	
	8.75% interest (approximate)	$928
	D. Yearly mortgage payment	$11,140
	E. Taxes per year (@ $10.74/1000)	$1,406
	F. Insurance per year (assumed)	$421
	G. Yearly PITI (priciple & interest, taxes and insurance)	$12,967
	(Add lines D,E & F)	
	H. Divide by .30 (30% of yearly income allowed to be	$43,224
	spent on PITI)	
	I. (=) Salary needed to support mortgage	**$43,224**
2. CLOSING FEES		
	A. Down payment (10%)	$13,094
	B. Points (percent of mortgage: 1.88 points)	$2,216
	C. Transfer tax (0.5% of purchase price on 1st	$887
	$100,000, 1.25% on remainder)	
	D. Legal Fees	$233
	E. Insurance on mortgage (if less than 20% down)	$561
	F. Appraisal	$210
	(Add lines A-F above) SUBTOTAL:	
	Amount Needed Down to Buy Home	**$17,200.19**
Source: LandUse, Inc., Affordable Housing Models Project Town of Shelburne, May 1990		

OLD BELCHERTOWN ROAD FINANCIAL WORKSHEET		
	Duplex	
What salary do you need to earn in order to afford this house?		
	PURCHASE PRICE:	**$110,389.00**
1. EXPENSE		
	A. Down payment (10%)	$11,038.90
	B. Mortgage	$99,350.10
	C. Monthly mortgage payment for a 30 year mortgage at	
	8.75% interest (approximate)	$781.62
	D. Yearly mortgage payment	$9,379.44
	E. Taxes per year (@ $10.74/1000)	$1,185.58
	F. Insurance per year (assumed)	$354.79
	G. Yearly PITI (priciple & interest, taxes and insurance)	$10,919.81
	(Add lines D,E & F)	
	H. Divide by .30 (30% of yearly income allowed to be	$36,399.36
	spent on PITI)	
	I. (=) Salary needed to support mortgage	**$36,399.36**
2. CLOSING FEES		
	A. Down payment (10%)	$11,038.90
	B. Points (percent of mortgage: 1.88 points)	$1,867.78
	C. Transfer tax (0.5% of purchase price on 1st	$500.00
	$100,000, 1.25% on remainder)	
	D. Legal Fees	$196.49
	E. Insurance on mortgage (if less than 20% down)	$472.91
	F. Appraisal	$176.62
	(Add lines A-F above) SUBTOTAL:	
	Amount Needed Down to Buy Home	**$14,252.70**
Source: LandUse, Inc., Affordable Housing Models Project Town of Shelburne, May 1990		